This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

**Usage guidelines**

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

**About Google Book Search**

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

8058
34

Educ 8058.34

HARVARD
COLLEGE
LIBRARY

3 2044 096 987 060

# THOUGHTS

ON

# PHYSICAL EDUCATION:

BEING

## A DISCOURSE

DELIVERED TO A

## CONVENTION OF TEACHERS

IN LEXINGTON, KY.

ON THE 6TH & 7TH OF NOV. 1833.

---

By CHARLES CALDWELL, M. D.

---

BOSTON:
MARSH, CAPEN & LYON.
1834.

Educ 8058.34
HARVARD COLLEGE LIBRARY
GIFT OF THE
NEWTON FREE LIBRARY
Mar 11 1938

Entered according to Act of Congress, in the year 1834, by
MARSH, CAPEN & LYON,
in the Clerk's Office of the Dis. Court of the Dis. of Mass.

BOSTON:
JAMES B. DOW, PRINTER,
122 Washington-st.

38-2-4
4

# PREFACE.

THE following production being too long for a Discourse, and too short for a Treatise, and possessing neither the style nor manner of an Essay, is a sort of nondescript in form, and by a certain class of readers, will perhaps, at first sight, be considered no less so; in some of the sentiments it contains. Should it be favored, however, with an attentive perusal, and a few second and serious thoughts, it is hoped that a more familiar acquaintance with it, will wear off any disagreeable effects, that first impressions may have produced.

The author was induced to prepare and deliver it, and has been led to print it, for sundry reasons. He was requested to do so, and did not think it kind or complaisant to refuse—the subject is one of great importance, involving the highest perfection and earthly happiness that man can attain, to say nothing of its bearing on his future condition—and it has rarely if ever, been treated on the ground, and under the extent of principle, that justly belong to it. But the chief reason for publishing the work, was a belief that it contains a few seminal truths, not generally known, which, when fully developed, and reduced to practice, will lead to results of much usefulness, in the work of education.

The subject is treated altogether *physiologically*. And that such is the nature of education, cannot be denied. Every change it produces in those who are made the subject of it, are strictly physiological. This is as true of moral and intellectual, as of physical education. All the beneficial effects of training, arise from the improvements produced by it, in organized matter, rendering such matter, whether it be brain, nerve, muscle, lungs, or of any other description, a better piece of machinery, for mind to work with. A knowledge of these truths is peculiarly important, as they show the essential connexion between mind and matter, and make it clearly appear, that, for its sound and vigorous operations, the former depends on the condition of the latter. Hence the importance of a strict attention to the health of pupils, even independently of their corporeal suffering from disease. Their mental character is no less concerned in the issue.

Let no one allege that this view of education involves materialism, or any principle, unfriendly to morality or religion. The charge would be most unjust. The entire subserviency of matter to mind is acknowledged in it; and that is all that the doctrine of spirituality can require. It must not claim to take from matter the rank and attributes conferred on it by its CREATOR. But for a fitter discussion of these topics, the reader is referred to the work itself, which, without further remark, is respectfully submitted to his unprejudiced judgment.

# THOUGHTS

ON

# PHYSICAL EDUCATION;

---

GENTLEMEN:

IT would be not only a departure from the object that has called you together, but objectionable in itself, and injurious in its effects, to introduce into the exercises of the present occasion the slightest allusion to matters of party. Nor would any one more reluctantly than myself be guilty of such a fault. Let me hope, however, that, without furnishing ground for a charge against me to that effect, or awakening in the mind of any one, who hears me, an unfriendly feeling, or an opposing thought, I may be permitted to observe, that the aspect of our country, political as well as social, is gloomy and portentous. And when we turn from the present to the future, the prospect presents but little to cheer us, unless a change, to be presently specified, can be produced in the public mind. While the embittered strife of parties, differing in their views of men and measures, and the growing discontents of geographical section,* seriously threaten the repose of

* This Discourse was written at the time when the spirit of NULLIFICATION in the south, was at its height.

the country, not to say the integrity of the Union,—the poison spread abroad by malice and falsehood, through the public prints, is tainting the community with moral corruption. So deep and pestilent is this fountain, and so broad and destructive to soundness of principle, as well as to the love and diffusion of truth, the stream that issues from it, as to render it perhaps more than doubtful, whether, perverted as it is to the vilest of purposes, the freedom of the press be a good or an evil. If men be too corrupt and vicious, to refrain, of their own accord, from practices disgraceful in themselves, and ruinous to their country, I am far from being convinced that they ought not to be debarred from them, by public authority.

Every excess is an evil; and that of the liberty of the press, which, turned to licentiousness, defames, misleads, inflames, and demoralizes, is among the most deplorable. Were any one to pronounce the sentiment here advanced, to be unfriendly to the doctrines of republican government, my reply would be, that it is not unfriendly to morality or Christianity, but concurrent with both. Nor is it less so with the spirit of genuine republicanism, which embraces and upholds the *general good*, and is therefore hostile to the corruption, fraud, and falsehood, to which too many of our public presses unblushingly minister.

For this condition of things, stored with the elements of such fearful calamity, there is but one remedy—*the advancement of the people in intelli-*

*gence and virtue.* I say 'advancement;' for there is reason to apprehend, that the stock of those attributes, now possessed by us, is too limited for the work to be performed by them,—the eradication of existing, and the prevention of future and more grievous evils. It is to the improved mental character of the rising generation, and those who shall succeed them, beyond that of the generation now at maturity, that our hopes can attach themselves, with any reasonable prospect of being realized. On the redeeming influence of such improvement, alone, can the American people safely and confidently rely, for the attainment of that degree of national prosperity, greatness, and glory, and that amount of individual happiness, which is placed within their reach, if they do not neglect or abuse their privileges.

Two questions of moment here present themselves. Is the amendment referred to, within our reach? and, if so, What are the means by which it may be compassed? I answer, Yes: the end can be attained; and *an improved education constitutes the means.* To represent it fairly, and recommend it to the acceptance and encouragement it deserves, I may safely add, that it is the only means. To rely on any other, would be a *deadly* fallacy. By that alone can our safety be secured. And by that it *can* be secured, provided we avail ourselves of it, as wisdom dictates, and duty enjoins. But we must avail ourselves of it promptly, else the opportunity may be lost to us forever. It is not only 'in the

affairs of *men*,' that 'there is a tide, which, taken at the flood, leads on to fortune.' The same is no less true of *nations*. And I may truly add, 'On such a full sea are we now afloat; and we must take the current, as it serves, or lose our venture.'

The influence of education, on the condition of our country, were it judiciously conducted, and generally diffused, would be irresistible; and its issue would be precisely the improvement we require. Not only would the people receive from it the intelligence necessary to guide them in public affairs; they would be improved by it in their entire character, moral and social, intellectual and political, and enabled the better to control their passions, and give them a safe and useful direction. Prepared to perceive the public good with greater clearness, and to pursue it with purer intentions, and a steadier aim, they would be less susceptible of the rage and sway of party, and more effectually guarded against the machinations of unprincipled demagogues and aspirants to power, who might wish to mislead them, for the promotion of their own selfish and sinister purposes. Thus would the nation become a nursery of abler statesmen and more virtuous patriots, and have its highest interests more certainly secured.

Fortunately for our country, these sentiments are not new; nor are they limited, as respects the number of those who entertain them. They are taking root in the public mind, with the most gratifying rapidity, and promise to be productive of invaluable fruit. There is reason to hope, that, as the issue of

them, education will be no longer neglected in the United States, but improved and extended, in proportion to our demand for it. Already is the interest awakened in favor of it, broad and deep; and it is beginning to be regarded in its true character, as constituting not only the corner-stone, but the foundation and cement of civil society. Already is it beginning to be looked to, as alone calculated to rescue human nature from the dominion of animal propensity and passion, and to bestow on it the highest perfection of which it is susceptible. Uneducated whites, and the roving children of the forest will soon be considered, and justly so, as occupying nearly the same level in the scale of being. Nor is this all. There is cause to believe, that the period is approaching, when to be wholly uneducated will be held dishonorable and out of fashion; and that will do much to complete the spread and triumph of education. As respects the points, on which they bear, honor and fashion are everywhere despotic.

That these views are not fallacious, but that the salutary change referred to is in progress, appears from an abundance of concurrent testimony. The meeting of the Convention I have the honor of addressing, testifies strongly to that effect. So do many other facts, which might be easily cited. Teachers, of every rank in their profession, are not only better rewarded, but held in higher estimation than formerly. It is no longer true, as it once was, that persons unfit for any thing else, on account of indolence, infirmity, or some other disqualification,

are employed, as instructers. Men of character and competency alone, are now considered worthy of the trust. Already is this the case, in many parts of our country, and promises soon to be so in all of them. Annals, Journals, and Libraries are established, Lyceums are opened, Institutes erected, Associations formed, Essays published, Sermons preached, Conventions held, and Discourses delivered, for the advancement of education. Those measures are calculated to form, foster, and diffuse a taste for it, excite ambition in it, and, rendering it popular, insure its success. For popularity, whether it attach to projects fitted for good or for evil, is a current which nothing can withstand; and fortunately, in the present instance, it sets in the right direction. In fine, a large portion of the talent of America, being, in some way, enlisted in the cause of education, and the general bent of society concurring with it, an effort so powerful and well directed, can scarcely fail to produce an era in the annals of our country, memorable alike for the diffusion of useful knowledge, and the advancement of human happiness. In the vocabulary of such numbers, united and resolute, intelligent and persevering, there is no suitable place for the terms *impossibility*, *failure*, or *defeat*. To confederacies of the kind, all things, within the scope of human means, become practicable and easy.—But my business is, not to speak of education, in the abstract, but to offer a few remarks on one of its branches. To that task, I shall now proceed.

That I may the more easily and certainly be understood, however, in my subsequent exposition of it, allow me first to make a few observations explanatory of what I mean, by the term *education*, as my understanding of it may differ, perhaps, in some degree, from yours. Any theoretical difference, however, that may exist between us, on this point, will have no influence in creating a practical one, on others of more immediate usefulness.

Let me here apprise you, that, in giving my definition, I must speak phrenologically. As education relates to the operations of mind, as well as of body, it must be considered and presented, as well summarily as in detail, with a reference to some system of mental philosophy. But of all the systems I have examined, (and I have looked carefully into several of them,) that of Gall and Spurzheim is the only one I can either believe or understand. As soon would I bind myself to discover the philosopher's stone, or to concoct the elixir of life out of simples, as to find substantial meaning in many of the tenets of fashionable metaphysics. Indeed, the dreams of alchymists, and not a few of those of metaphysicians have a strong family-likeness. And well they may. They are the twin-brood of common parents, Error and Superstition, and were ushered to life during the Dark Ages. These are my reasons for speaking in conformity to phrenological principles, in the definition I am about to offer.

By education, in the abstract, I mean a scheme of action, or training, by which any form of living

matter may be improved, and, by perseverance, reared to the highest perfection of which it is susceptible. I say, 'any form;' because the lower orders of living beings, vegetables not excepted, may be educated and improved, as certainly as the higher, and on the same grounds. That it may produce the desired effect, the scheme pursued, must conform to the constitution of the race of beings, for whose improvement it is intended; and, in the present instance, that race is our own. No one, therefore, is capable of devising and arranging such a scheme, for the amendment of the general condition of man, nor even of comprehending and skilfully applying it, unless he be thoroughly acquainted with his constitution. Hence, without such an acquaintance, it is impossible to become an able and successful instructer. He that would rectify or improve a piece of machinery, must first understand it, in its structure and principles. Under the want of such a knowledge of it, to touch it, is to impair it: except it be saved by the intervention of accident. In like manner, he that would alter human nature for the better, must know it, *as it is*. Special education, designed for a given purpose, is a scheme of training in accordance with that purpose. I need scarcely add, that general training does nothing more than improve general powers; while special training fits for some definite and corresponding pursuit.

By the constitution of man, as just referred to, I mean his material portion, in its organized and vital capacity, that being, as I feel persuaded, the only

part of him, *we* are able to improve. The mind being a spirit, whose nature and qualities, *as spirit*, are concealed from us, and with which none of our faculties are fitted to make us acquainted, we do not possess any means, nor can we conceive of any, calculated to produce in it either amendment or change. Its subtle and inscrutable character places it beyond our action and influence. Nor, as will appear hereafter, does the work of education require it to be changed. It only calls for an amendment of the instruments, with which it works. So exalted is my view of spirit, that I believe it to be competent, without any interference from us, to the highest actions, for which the body is fitted. To amend it, belongs only to HIM who made it.

It occurs to me, that he who believes in his power to improve spirit, by making it stronger, larger, more active, or in any respect better, has a much less exalted opinion of it, than he has of himself. A capacity to amend, implies a superiority, in the amender and his machinery, to the thing he improves. But the whole machinery of education is material. To contend, then, that education can improve *the abstract mind*, is to assert *the superiority of matter to spirit*. This is neither quibble nor sophistry, but a deduction of reason, and a dictate of common sense. Nor will any thing but a spirit of sophistry attempt its subversion. Except the teacher be superior to the pupil, he cannot instruct him. Much less can he do so, being greatly inferior. Spirit, being the superior, *may* modify and amend

matter; but for the converse of this to be true, seems impossible.

The organized system of man, constitutes the machinery, with which alone his mind operates, during their connexion, as soul and body. Improve the apparatus, then, and you facilitate and improve the work, which the mind performs with it, precisely as you facilitate steam-operation, and enhance its product, by improving the machinery, with which it is executed. In one case, steam, and in the other, spirit, continue unchanged; and each works and produces, with a degree of perfection, corresponding to that of the instruments it employs.

As respects several of the functions of the mind, the correctness of the foregoing theory is universally admitted. Seeing, hearing, tasting, smelling, and feeling, as well as voluntary muscular motion, are as true mental operations, as judging, reasoning, remembering, or calculation by numbers. And the former are as susceptible of improvement, as the latter. But when improved, no one considers the result as consisting in any amendment of simple spirit, but of compound organized matter. When, for example, vision is improved, the amendment is uniformly referred to the eye, the optic nerve, and that portion of the brain immediately associated with them, they being the organs, by which the mind sees, and without which, it cannot see. Is hearing improved? For the same reason, it is not the mind, but the auditory apparatus that is amended. Of the other senses, the same is true. If either of them be im-

proved, it is the organ that is meliorated in its condition, not the mind that uses it. Nor is this truth less obvious, as respects the instruments of voluntary motion. The opera-dancer, the tumbler, and the swordsman, do not, in acquiring expertness in their occupations, improve their minds, but their muscles and joints, with the nerves and portions of the brain, that have the governance of them. These positions are so plain, that to state them, is to prove them.

Respecting the higher mental operations, the same may be affirmed with equal safety. In performing them, the mind works with the brain as its machinery, as certainly as it does with the eye in seeing, or the muscles in dancing and swordsmanship. Is any form of memory,—say the memory of words, or that of places,—rendered more apt and retentive, by judicious exercise? We have no reason to believe, that the mind or spirit is amended, in this instance, any more than in those heretofore enumerated. It is a portion of the brain—the organ of language or locality—that is amended. By practice, man becomes more powerful and adroit in reasoning and judging. Here again the mind is not changed. The belief to that effect has no shadow of evidence to sustain it. The improvement in this case, as in the preceding ones, is confined to the organs, with which the mind reasons and judges. Arguments, not to be refuted, could be adduced in favor of this statement, were the discussion admissible. Indeed, for man to claim the power of operating immediately on spirit, and either amending or

deteriorating it, by any means he can employ, is an assumption perfectly gratuitous, and, in my opinion, not a little extraordinary and arrogant. It is enough that he is able to change matter, and control it to his purposes, *by material agents.* And all the means used in teaching, *are* material. There is good reason to believe, as already stated, that nothing short of the CREATIVE WILL, that brought spirit into existence, can modify it, either for better or worse. When we wish, then, I say, to improve mental operations, we have only to amend the organs, which the mind employs in performing them. And it will appear hereafter, that this is a proposition of great importance, in the scheme of human improvement. For no other reason would I have ventured to introduce it, on the present occasion, aware, as I am, that its correctness is not likely, at first, to be generally acknowledged by you. Allow me, however, to repeat, that a difference of opinion, on this point, will have no tendency to create a difference on many that are to follow. The difference will be in theory, not in practice.

Education is usually divided into two branches, Physical and Moral. More correctly might it be divided into three—Physical, Moral, and Intellectual. Nothing is more certain, than that the Intellectual and the Moral powers may be educated separately; the former being amended, while the latter are not; and the converse. Facts in proof of this are abundant. There is as real a distinction between moral and intellectual education, as there is between phys-

ical education and either of them. It will appear, however, presently, that they are all three so intimately connected, that the improvement of any one of them may be made to contribute to that of the others. Nor can it be otherwise, except through mismanagement. Moral action, intellectual action, and what, for want of a better name, I may call physical action, have their seats and instruments in different parts of the human system; and those parts are essentially connected by sympathy, and other ties more mechanical and obvious. One of them being injured or benefited, therefore, the others are affected in a corresponding manner. Deriving their being and sustenance from the same source, and serving as elements of the same individual person, each of whose parts is necessary to the integrity and perfection of the whole, it would be singular, were it not so. To illustrate my meaning, and prove my position.

The condition of the morals of every individual depends on the condition of the moral organs of his brain, the condition of his intellect on that of his intellectual organs, and the condition of his physical powers on that of the remaining portion of his body, including the cutaneous system, the digestive, the respiratory, the circulatory, the secretory, the absorbent, the muscular, and some others. And all these parts are so mutually dependent, that no one of them can be either materially injured or benefited alone. More or less, the others correspond to the condition into which it is thrown. Are the

digestive, the respiratory, and the circulatory systems, or either of them seriously deranged, the brain suffers, through all its divisions, for want of a sufficient supply of good blood, to nourish, vivify, and strengthen it. Is the brain itself materially deranged, it is incompetent to prepare, in due quantity, and of sound qualities, its *matter of influence*, whatever that may be, and transmit it to the other parts of the system. They therefore suffer in turn. Hence, I repeat, that moral and intellectual education, which consists in amending the condition of the brain, and physical education, which is the improvement of the other parts of the body, are indispensable to the perfection of each other, and, of course, to that of the whole system. Physical education is to the other two, what the root, trunk, and branches of the tree are to its leaves, blossoms, and fruit. It is the source and *sine qua non* of their existence. Injure or improve it, and you produce on them a kindred effect. Hence, physical education is far more important than is commonly imagined. Without a due regard to it, by which I mean a stricter and more judicious attention than is paid to it at present, man cannot attain the perfection of his nature. Ancient Greece might be cited, in confirmation of this. May history and other forms of record be credited, the people of that country were, as a nation, physically and intellectually, the most perfect of the human race. And there is reason to believe, that their unrivalled attention to physical education, was highly influential in producing the result.

In truth, the ancient Persians and Greeks, as well as some other nations of antiquity, appear to have cultivated that form of education to a much greater extent than the moderns do. Nor were they without their reasons for this. For their standing in war, in common with their influence in peace, individuals, among those people, were greatly indebted to their personal strength. The cause of this was, that they were, in a high degree, deficient in the improvements of art, especially in their knowledge and command of the mechanical powers. Their chief substitute for this want, was their own bodily powers. It was incumbent on them, therefore, to increase those powers, in the highest practicable degree. The invention of gun powder has brought the weak and the strong to an equality in war; and the improvements made in mechanics, have done nearly the same, in relation to the arts of peace. Hence, as respects the general business of life, the moderns have much less necessity for personal strength, than the ancients had. And, as mankind act from motives of necessity and interest, much more than from those of any other sort, physical education, the chief source of superior strength of person, has been greatly neglected, especially by the higher orders of society, for two or three centuries. Knowledge being now the only ground of great power and influence, *intellectual education*, receives, at present, a much more *exclusive* attention than it formerly did, and much more than comports with the benefit of our race. Even *it*, however, would

profit greatly, by an improved condition of physical education.

This brings me immediately to my task. Before actually entering on it, however, suffer me to observe, that if, instead of treating technically of moral, intellectual, and physical education, authors and others would speak correctly of the education of the different portions of the body, each portion being trained according to its organization and character, they would be more philosophical and intelligible than they are. I am persuaded they would be also more instructive. The skin, for example, must be educated by one mode of discipline, the stomach by another, the lungs by a third, the muscles and circulatory system by a fourth, and each external sense and cerebral organ by a method corresponding to the peculiarity of its nature. In this view of the subject, which is the only rational one, the training of the brain, in all its departments, by whatever name they may be called, is as truly a *physical* or *physiological* process, as the training of any other part of the body. I shall not, however, out of mere conformity to these principles, employ at present any new terms or phrases, as those already in use are sufficient for my purpose, and will be better understood, than such as I might substitute for them. It is of physical education, then, in the usual acceptation of the phrase, that I am now to speak.

This process may be defined, that scheme of training, which contributes most effectually to the development, health, and perfection of living mat-

ter.—As applied to man, it is that scheme which raises his whole system to its summit of perfection. In this are included the highest tone and vigor of all parts of the body, that are consistent with a sound condition of them; for the tone of a vital organ, like that of a musical instrument, may be too high, as well as too low.

Physical education, then, in its philosophy and practice, is of great compass. If complete, it would be tantamount to an entire system of Hygeiene. It would embrace every thing, that, by bearing in any way on the human body, might injure or benefit it in its health, vigor, and fitness for action. It must be obvious to you, therefore, that, on the present occasion, I can consider it but partially. To give a full development of it, volumes of writing would be necessary, and days would be required to read them. So numerous are the elements, which enter into the aggregate of the scheme, that I can but barely refer to most of them, and speak of a few of them very briefly.

Were I to commence at the real fountain of physical education, and trace the stream to its close, I should be obliged to refer to a period anterior to the birth, or even the formation of those, of the promotion and perfection of whose health and strength I should be treating.

The first and most important element of physical education, is to procure, for those to be educated, a constitution of body originally sound. To this, the soundness of parents is indispensable—it being a law

of nature, that constitutional qualities are hereditary. If the stamina of the child be defective, it is not to be expected that the health and vigor of the adult can be made perfect. The primitive deficiency, though it may be lessened, can never be removed. As well may you look for the erection of a solid edifice, to endure for ages, out of decayed materials.

The constitution of the child may be irremediably impaired, by various causes. Of these, the marriage of the feeble and infirm is one,—children inheriting the constitutions of their parents.

Under this head are included all persons having a well-known constitutional tendency to any form of disease; the more especially if that tendency be a family inheritance. Of this description are those who are predisposed to insanity, idiocy, pulmonary consumption, asthma, gout, dyspepsia, scrophula, and other affections known to be transmissible from parents to their offspring.

Early marriages,—those, I mean, that take place before the full maturity of the parties, is another. Sound and perfect fruit cannot be the product of immature and feeble trees. This truth is well known to skilful agriculturists, and scrupulously observed and practised on, by them, in their efforts to improve their domestic animals, and the products of their grounds. It is neglected, and run counter to, only in what are termed efforts to improve the human race. To improve the human race! rather say, to deteriorate it! While man is the laborious

improver of every thing else, as well in art as in nature, strange as it may appear, he neglects, or rather deteriorates himself; not remembering that self-improvement would not only be a source of the purest pleasure to him, but would qualify him the better for effecting every other form of it, by increasing his powers.

Another cause, is marriage, where the male party is far advanced in life, the female being within the period of fruitfulness. The issue of such connexions are rarely possessed of sound constitutions. They often exhibit some of the elements of old age, even in their youth. And no instance is remembered at present, where they have been long-lived, or distinguished by mental or bodily powers.

A fourth cause is the marriage of the indigent, who are unable to provide for their offspring a competent supply of wholesome food. Hence the universal degeneracy of the poor—of those, I mean, whose nutriment is scanty, of bad quality, and imperfectly cooked. For the cooking of diet is of great moment; and the cookery of the poor is always defective.

A fifth cause is a long perseverance in family alliances; marriages, I mean, between those nearly allied to each other, by descent. Be the immediate reason what it may, the fact is indisputable, that the descendants of parents thus related degenerate; and the families, in time, become extinct. Witness the present royal families of Europe, that, from sceptred pride, and state policy, have long intermarried with

each other. They can now scarcely muster heirs, in the direct line, to occupy their thrones—and such heirs, that, the whole of them united, would not form a well-gifted man! Three of them are females,* the average of whose ages would make them children of about ten years old—feeble hands, to sway the trident and the sceptre over a hundred and fifty millions of the human race! Yet, those families, now so degenerate, were once signalized for high and noble qualities, in the midst of the most noble, and were, on that account, clad in purple, and decorated with crowns. Nothing but commanding attributes, mental or personal, or both, could have raised them, at first, to regal power. Of the nobility of Portugal, I might observe the same. They were once the pride of Europe. But, by intermarriages, continued for centuries, they are now a most degenerate race. By intermarrying with commoners, the nobility of Great Britain, Turkey, and Persia, avoid degeneracy, and continue among the finest people of their respective nations.

The last cause I shall cite, as operating before the birth of the child, is the state of health of the mother, during gestation. Unless that be sound, the constitution of the offspring will be necessarily impaired. It is in vain to allege, in opposition to this, that the infants of delicate, enfeebled, and even sickly moth-

* When, from any cause, men are feeble in their constitutional powers, their offspring, if they have any, superabound in females. Of inferior animals, the same is true.

ers, are sometimes healthy and robust. They would have been more so, had the health of their mothers been in a better condition.

The avoidance, by females, therefore, while pregnant, of every thing that might injure them, cannot be too strict. Nor is this all. They should take more exercise in the open air than they usually do. The feeling, which induces many of them to shut themselves up in their rooms, for weeks and months, before parturition, is an excess of delicacy—were the term less exceptionable, I would say false delicacy—and ought not to be indulged. Their food should be wholesome, nourishing, and easy of digestion, and should be taken in quantities sufficient to give them their entire strength, and maintain all their functions in full vigor. Their minds ought to be kept in a state of tranquillity. In a particular manner, the effects of frightful appearances, alarming accidents, and agitating and impassioned tales and narratives should be carefully guarded against by them. The blighting operation of the 'Reign of Terror,' in Paris, on the children born during that period, furnishes fearful evidence of the influence of the distracted and horrified condition of the mother, over the system of the unborn infant. An unusual number of them was still-born. Of those who were not so, a number equally uncommon died at an early age; and, of those who attained adult life, an unusual proportion were subject to epilepsy, madness, or some other form of cerebral disease. Pinel tells us, 'that out of ninety-two children born after the

blowing up of the arsenal at London, in 1793, eight were affected by a species of cretinism, and died before the expiration of the fifth year; thirty-three languished through a miserable existence, of from nine to ten months' duration; sixteen died on coming into the world, and two were born with *numerous fractures* of the longer bones! The latter effect must have been produced by the inordinate and deranged contraction of the uterus.

Over the foregoing causes, you, as mere instructers, have no control. For no mismanagement of them, therefore, are you accountable. Nor does the direction of physical education in the nursery, fall within your province. Yet is the treatment of children there, of great moment both to them and to you, in subsequent years. Its effects, for good or evil, can scarcely fail to be as lasting as their lives, and to influence, more or less, their entire destiny. A few remarks on it, therefore, will not perhaps be out of place.

The sound nursery-education of children, consists chiefly in the judicious management of diet, cleanliness, clothing, atmospherical temperature, respiration, muscular exercise, sleep, and the *animal* passions. I say 'animal passions,' because children in the nursery have no other kind. Of the education of the moral feelings, I shall speak hereafter. I do not say that no degree of moral education can be communicated to children at a very early period. Their moral organs, however, being as yet not only small, but very immature, cannot be operated on to

much advantage. An attempt to excite them powerfully, might even do mischief.

For many reasons, infants are best nourished, when nursed by their mothers. Though exceptions to this sometimes occur, they are rare, and might, by well-regulated conduct, be rendered much more so. When children have passed the period of lactation, their diet should be simple, nutritious, and easily digested; and they may take it liberally, and at shorter intervals than adults. But they should never be gorged with it, nor allowed to eat until their appetites are cloyed. Of all solid substances, whether animal or vegetable, they should early learn the importance of *thorough mastication*. They should be taught, that to swallow such articles, without chewing them, is indecent, as well as injurious; for they will often do, in defiance of danger and positive prohibition, what they would not do, in violation of good manners. High-seasoned condiments, and other provocatives, should be carefully withheld from them. So should unripe fruit, and crude vegetables,—all their diet being thoroughly cooked. Indeed, children are, on an average, much more injured than benefited, by eating undressed summer fruit, of whatever kind it may be, and whether it be ripe or green. One reason of this is, that they are permitted to eat too much of it, and to take it at improper times. Every thing either highly stimulating, or difficult of digestion, should be prohibited food. Such diet is bad enough for adults; for children, tender, feeble, and susceptible as they are, it

is poison, destroying life, at times, in a few hours. Infinite mischief is done, by giving children a '*little*' of a prohibited article, because 'the dear creatures wanted it, and held out their little hands for it!' A transgression of this kind, by a nurse, should be visited on her, by an immediate dismissal. Let it never be forgotten nor overlooked, that, like all other parts of the body, the stomach may be strengthened, by skilful training. Let that organ receive suitable aliment, in proper quantities, and at well-regulated periods, and it will be as certainly improved, in its powers and sympathies, as the brain, external senses, and muscles are, by their appropriate kinds of action. Nor is it less impaired and enfeebled than other organs, by too much or too little action. It is subject to all the laws that govern other portions of organized matter. Suitable exercise, indulged in to the proper extent, strengthens it, while excessive and deficient action weakens it, and unfits it for its functions. Too much attention cannot be paid to the bowels, in the earlier years of life, and, indeed, throughout the whole of it. Their condition should always be free, inclining to laxity, rather than the contrary. Let them be regulated by diet and regimen, if possible. Should that course, however, prove unsuccessful, the necessary laxatives must be administered.

The cleanliness of children, is indispensable to the healthy action of their skin, and, through that, to their general health; and the water used in cleansing them should be tepid. Though vigorous

children may bear bathing in cold water, with impunity, delicate ones cannot. And even the former, if in the slightest degree indisposed, may be injured by it. It being, moreover, not always easy to ascertain, whether children are in perfect health, or not, tepid water is always safest. Nor is infancy the proper period to attempt to produce hardihood of constitution, by exposure to a low temperature. Practice founded on the opposite opinion, is often productive of serious, not to say fatal results.

I shall only add, under this head, that personal cleanliness, as one of the minor virtues, (for it deserves to be so called,) is much less attended to and esteemed, in the United States, than it ought to be. Nor does this charge implicate only the neglect of children. Adults are still more negligent of cleanliness in themselves. During weeks and months, water touches no parts of many of them, save their hands and faces—and—*longo intervello*—their feet and ancles. This is downright *uncleanliness*, not to give it a harsher name. Were the inhabitants of our country, to use some form of ablution much more frequently than they do, they would be purer, more comfortable, and healthier than they are.

The clothing of infants should be soft, fitted to absorb moisture from the skin, and retain the natural warmth of the body, and so fashioned, as to be loose and free. The tight bandaging of children, and every other form of pressure, made by their clothing, is pernicious. Health has been injured, and life destroyed by it. This is true, more espe-

cially, of undue pressure on the abdomen or chest—the parts on which it is most frequently made.

The temperature of a nursery ought to be comfortable. It should neither chill with cold, nor flush with heat. To the tenderness and susceptibility of infancy, all extremes are hurtful. Means to prevent the apartment from being traversed by currents of cold or damp air should be provided, and nothing neglected, that may tend to secure an equable temperature.

The respiration of infants is immensely important, and cannot be too vigilantly attended to. The air breathed by them should be fresh and pure. Let nurseries, therefore, be spacious, clean, and thoroughly ventilated. Nor is it unimportant, that they be well lighted—I mean with windows. The influence of light, on animal life, is not sufficiently appreciated. Facts as well as principles show, that it is much greater and more salutary, than is commonly believed. Darkness long continued, is scarcely less pernicious to tender animals, (and children are such,) than to plants. Account for it as we may, light cooperates with oxygen, in imparting to the arterial blood, the brilliancy of its scarlet. Not only the complexion, but the blood itself, the source of complexion, loses much of its florid hue, in miners, criminals confined in dark dungeons, and other persons long secluded from the light. During suitable weather, infants should pass several hours daily in the open air. The constant housing of adults is bad; that of infants far worse; because their delicacy and

sensitiveness are greater. Respiration acts vigorously on the lungs; and those organs are invigorated and otherwise benefited, by the laughing, shouting, crowing, and occasional *crying* of children. However unpleasant the latter sound may be, it is a natural one. And nature is, in all things, our best guide; though we must not abuse her, or suffer her to be abused, by any sort of excess. Crying, within proper bounds, is *good exercise* for the lungs, and other vocal organs of children; and suitable exercise is a certain source of strength, to every portion of the body. The late Professor Rush, who was noted for his pithy, antithetical, and sagacious remarks, said, in his lectures, that, though the usual adage respecting children was, 'Laugh and be fat;' he had learned, from observation, that they might also 'Cry and be fat.' And he was right.

The muscular exercise of children should be regulated with more judgment and care, than is usually bestowed on it. Crawling is their first mode of progression. In this they should be encouraged, and induced to practise it freely; and it ought to be somewhat protracted. Nurses and parents, especially young parents, are generally too anxious to see their infants beginning to walk, or rather to totter along, in a form of movement, that can hardly be called walking. Hence they induce them to make premature efforts to that effect. The evils likely to arise, and which often do arise, from this practice, are plain. Owing to the immaturity and flexibility of their bones, and the feebleness of their muscles,

the lower extremities are frequently bent and misshapen by it; and the children, falling, injure their heads, or other parts of their bodies, by bringing them into collision with hard, cutting, or puncturing substances. The precise age, at which children may begin to walk with safety, cannot be settled, by any general rule. The progress toward maturity, being more rapid in some of them, than in others, the periods of their fitness to walk, will be earlier or later, in corresponding degrees. But none should be allowed to walk, until the firmness and strength of their limbs are sufficient to sustain, without distortion or injury, the weight of their bodies. Observation on individual cases, therefore, aided by experience, must give the rule. On the subject of sleep, as a means in physical education, a few remarks will be offered hereafter.

The passions of children, if indulged, are growing evils. Hence they should be vigilantly held in check, from the earliest period. If not thus restrained, they become noxious weeds in the garden of the mind, deprive valuable plants of their nourishment, and blight them with their shadow. To speak in language better suited to my subject; if, instead of being curbed, they are fed and fostered, they become the ruling elements of character, and insure to the individual a life of trouble—not to say of accident, disease, and suffering. A large proportion of the evils of life, as respects both health and fortune, is the product, more or less directly, of unruly passions. The higher and milder virtues, social as well

as moral, cannot flourish under their dominion. In a special manner, children should never be allowed to obtain what has once been denied them, by breaking into a passion about it. Such an act ought to be always visited by a positive privation of the thing desired. And the ground of the denial should be made known to them. Never let a child have reason to believe, that a gust of passion is a suitable means to gratify a wish. Teach him, as far as possible, to know and feel the reverse. And, should he become offended at a pet or a play-thing, neither beat it yourself, nor allow him to beat it, by way of pacification or revenge. Such procedure is aliment to vindictiveness, and leads to mischief—perhaps, in the end, to maiming and murder. As relates to matters of this kind, ignorant and passionate nurses are among the worst of family nuisances. They often blow into a flame the sparks of passion, which, without their aid, would have slumbered and gone out. These may be deemed small and trivial matters. In themselves, they are so; but not in their consequences. Let it never be forgotten, that 'little things are great to little men;' and more especially, to little children. A fiery education, in the nursery, may heat the brain to the verge of inflammation, and aid in the production of actual inflammation or madness—impair health, in sundry other ways, by excessive excitement, render unhappy the days of others, as well as of the mismanaged individual, and lay the foundation of a blasted reputation. It is believed that an education of this kind injured immeasurably

the late Lord Byron; and Earl Ferrers expiated on a gibbet, the fruit of a similar one.

But it is not what is called the *temper*, that is alone injured by a nursery education unskilfully conducted. Habits of deception, falsehood, and even theft are not unfrequently encouraged and formed by it. This can scarcely fail to lead to serious mischief; it being the natural course of things, that seeds sown in infancy yield fruit in maturer years. The slightest disposition, therefore, in children, to deviate from truth and candor, either in words or actions, or to appropriate, as their own, what does not belong to them, should be promptly suppressed. It arises from irregular action in certain organs of the brain, which, if not checked, runs to excess, and turns to a moral disease. The organs referred to belong to the animal class, and, being thus exercised, become so powerful and refractory, as to be no longer under the control of the moral and reflecting organs; and the elements of vice, are finally rooted in the constitution with such firmness, as to frustrate all attempts to remove them. So important is early training to the character of our race; yet so lamentably is it neglected and abused! In such cases, health of body suffers in common with soundness of mind, the undue exercise of the animal organs of the brain being hostile to both. In fine; the regulation of the nursery, though too generally intrusted to ignorance and thoughtlessness, is a charge of great importance, imposing a responsibility far more weighty, than it is usually considered.

Too often are those, who are fit for little else, converted into nursery girls.

The teething of children, is a process requiring some attention. Provided, however, health be otherwise maintained, it is much less dangerous, than it is usually considered. The only reason, why the young of the human race do not cut their teeth with as little difficulty and suffering, as those of the inferior animals, is, because they are rendered, by the treatment they receive, especially by improprieties in diet, unnaturally tender and sensitive. Gastric and constitutional derangement is the chief cause, not only why infants do not cut their teeth with ease, and without sickness, but also why they suffer so much from diseases of them, in after life. More attention to general health, than is now paid, not alone during infantile and youthful, but likewise during adult age, even to the close of life, would greatly limit the business of the dentist. To the cleanliness of the teeth and gums of children, strict attention should be paid.

It need scarcely be observed, that, as a preventive of small-pox, children should be vaccinated, at an early age. The practice, therefore, may be regarded as an important element of nursery education. The neglect or improper procrastination of it, devolves on parents a responsibility as weighty as almost any other respecting infants, of which they can be guilty.

As already mentioned, however, these things affect you, as teachers, but remotely; yet they *do*

affect you; because your profession calls you to witness their products, and to remedy, as far as possible, the mischief they have done. The pupil of the *nursery*, carries, as the fruit of his tuition there, a given character into your schools. And that character accords with his previous training. I doubt not that many of you have learned to read and decipher, in children, a correct record, and one not easily mistaken or forgotten, of the family government of their parents. Were fathers and mothers apprized of the fact, that their offspring are correct informants, at the bar of the public, of what they daily see, and hear, and experience at home, a sense of reputation alone, in the absence of higher motives, would induce them to amend their domestic discipline. Such at least ought to be its effect. Children trained to obedience and attention, in their own dwellings, will not, when they enter seats of instruction, leave those valuable qualities behind them. But, if they are neglected by their parents, they can scarcely fail to be strangers, as well to a sense of duty and decorum, as to the practice of them. In fine, when children are irregular, vicious, or even sickly, the fault and the misfortune are, in a much higher degree, than is usually imagined, attributable to the neglect or mismanagement of those, who have had the superintendence of them. You are prepared, I am confident, to concur with me, in the sentiment, that some of the greatest difficulties experienced in schools, as relates to every branch of education, arise from the faults of domestic discipline. Let

parents and guardians do their duty, and the business of school tuition will be not only facilitated, but enhanced in its usefulness.

Children ought not to be too soon dismissed from an education *exclusively* domestic. They ought not, I mean, to be sent to school at too early an age. A practice the contrary of this, threatens to be productive of serious, not to say irreparable mischief. Parents are often too anxious that their children should have a knowledge of the alphabet, of spelling, reading, geography, and other branches of school-learning, at a very early age. This is worse than tempting them to walk too early, because the organ likely to be injured by it, is much more important than the muscles and bones of the lower extremities. It may do irremediable mischief to the brain. That viscus is yet too immature and feeble, to sustain fatigue. Until from the sixth to the eighth year of life, the seventh being perhaps the proper medium, all its energies are necessary for its own healthy development, and that of the other portions of the system. Nor ought they to be diverted, by serious study, to any other purpose. True—exercise is as essential to the health and vigor of the brain, at that time of life, as at any other; but it should be the general and pleasurable exercise of observation and action. It ought not to be the compulsory exercise of tasks. Early prodigies of mind, rarely attain mature distinction. The reason is plain. Their brains are injured by premature toil, and their general health impaired. From an unwise attempt to convert, at once, their

flowery spring into a luxuriant summer, that summer, too often, never arrives. The blossom withers, ere the fruit is formed. For these reasons, I have never been an advocate of 'Infant Schools.' Unless they are conducted with great discretion, they cannot fail to eventuate in mischief. They should be nothing but schools of pleasurable exercise, having little to do with books.

As those institutions are now administered, they are serious evils. The passion in favor of them, becoming more extensive in its prevalence, and acquiring daily greater intensity, is among the alarming portents of the time. It is founded on the want of a correct knowledge of the human constitution, and of the amount of labor its different organs can sustain with safety, at the different periods of life. Perhaps I should rather say, it is founded on the fallacious belief, that it is the infant's mind *alone*, that labors in acquiring school learning, and not any organized portion of his body. This is an error, which, if not corrected, will prove fatal to hundreds of thousands, of the human race. It is not the mind, but the brain, the master organ of the system, essential to the well-being and efficiency of every other part of it, that toils and is oppressed in the studies of the school. Nor, tender and feeble as it is, is it possible for it to endure the labor often imposed on it, without sustaining irreparable injury—an injury no less subversive of mental than of corporeal soundness and vigor.

Were parents fully sensible of this, (a truth which

Phrenology alone can teach them,) they would no longer overload the brains of their mere babes with study, any more than they would their half organized muscles and joints with unmerciful burdens of brick and mortar. They would even know that the latter, would be the least destructive practice of the two. Under such circumstances, we should hear no more of the 'Boy's Book,' and the 'Girl's Book,' and the 'Child's Own Book,' with such other slip-shod, catch-penny trash, as now encumbers our bookstores and parlors. These would all be exchanged for the Book of Nature, which is, truly, the 'Child's Own Book;' and which, being traced for that purpose, by the DIVINITY HIMSELF, is faultlessly prepared.

Instead of seeing infants confined to inaction in crowded school-rooms, with saddened looks, moist eyes, and aching heads, we should then meet them in gardens and lawns, groves and pleasure-grounds, breathing wholesome air, leaping, laughing, shouting, cropping flowers, pursuing butterflies, collecting and looking at curious and beautiful insects and stones, listening to bird-songs, singing themselves, admiring the bright blue arch of the heavens, or gazing at the thickening folds of the thunder-cloud, and doing all other things fitted to promote health, develope and strengthen their frames, and prepare them for the graver business of after-life. And, instead of pale faces, flaccid flesh, and wasted bodies, we should find them with ruddy cheeks, firm muscles, and full and well-rounded limbs.

Exercises and pastimes such as these, constitute the only 'Infant School' that deserves to be encouraged; nor will any other sort receive encouragement, when the business of education shall be thoroughly understood. The brain of infants will be then no longer neglected, as a mass of matter of little importance; skin, muscle, and bone, being thought preferable to it. On the contrary, it will be viewed, in its true character, as the ruling organ of the body, and the apparatus of the mind, and its training will receive the attention it merits. I repeat,—and the repetition should be persevered in, until its truth be acknowledged, and reduced to practice,—that most of the evils of education, under which the world has so long suffered, and is still suffering, arise from the mistaken belief, that, in what is called moral and intellectual education, it is the *mind* that is exercised, and not the *brain*. Nor will the evils cease, and education be made perfect, until the error shall be exploded. Knowing nothing of the nature of mind, and supposing it to be, as a spirit, somewhat *impassive*, we are neither apprized nor apprehensive, that any degree of action will impair it. Indeed we can form no conception of an injury done to it, as a separate essence. Perhaps the most rational belief is, that it can suffer none. But the case is different, as respects organized matter. We witness, daily, injuries done to it, by injudicious exercise. Nor is there perhaps any portion of it so easily or ruinously deranged by excessive action, as the brain, especially the half-formed and highly susceptible brain of

infants. Let this truth be realized, and faithfully and skilfully acted on, and human suffering from hydrocephalus, rickets, phrenitis, idiocy, epilepsy, madness, and other cerebral affections will be greatly diminished. It would be infinitely wiser and better, to employ suitable persons to superintend the exercises and amusements of children, under seven years of age, in the fields, orchards and meadows, and point out to them the riches and beauties of nature, than to have them immured in crowded school-rooms, in a state of inaction, poring over torn books and primers, conning words of whose meaning they are ignorant, and breathing foul air.

After these remarks on what falls more especially within the province of others, I shall now consider briefly a few of those points of physical education, in which you, as instructers, have an immediate concern.

Having hitherto intentionally omitted it, I find it necessary to my purpose now, to observe, that the human body is composed of a variety of sets of organs, some of which are so predominant in their influence, as to assimilate the condition of the others to their own. They exercise, also, a powerful influence over one another. If one of them be deranged, it deranges the others; and if either of them be healthy and vigorous, the soundness of the others may be considered, on that account, the more secure. Of the control of all and either of them over the rest of the body, the same is true. If they be sound, it is sound; if diseased, it is diseased.—To

execute the task of physical education, then, it is necessary, chiefly, so to watch and regulate them, as to keep them unimpaired.

The organs alluded to, as possessing a predominance, are, the skin, the digestive system, composed of the stomach, liver, pancreas, intestines, and lacteals; the blood-making and blood-circulating system, made up of the heart, lungs, and blood-vessels; and the cerebral and nervous system, comprising the brain, spinal cord, and nerves. The muscular system is also important, not only in itself, but as contributing, by its functions, to the perfection of the others. Physical education, as an aggregate, then, consists in the proper education of these several sets of organs. Train them in the best manner, and to the highest pitch, and the individual has attained his highest perfection.

Of the education of the skin, I have already spoken, under the heads of cleanliness, clothing, and temperature; for the chief action of temperature is on that organ. On these points, therefore, I have but little to add. The same attention to them required in the nursery, is required in the school. The temperature of school-rooms should be comfortable, in all sorts of weather, and the cleanliness and clothing of pupils such as may best contribute to the health of the skin. The rooms themselves should also be clean. The covering of all children, especially of delicate ones, had better be too warm than too cool. And pupils should never be allowed to sit in school, with their clothes and feet wet, or

even damp. The most vigorous constitutions have suffered from such exposure. Persons may *exercise* with impunity, in damp clothing, and with wet feet; but not *sit still*. Nor should children be exposed to currents of air in school-rooms. They would be safer out of doors, than under the action of such a cause.

The education of the digestive organs has been briefly noticed, under the head of *diet*. It is matter of regret to me, that time does not permit me to enlarge on it, as it is infinitely important in physical education. Long-lived individuals are generally remarkable for the soundness of their stomachs. Many of them have never experienced nausea, and rarely an impaired appetite. Improprieties in diet are the most fruitful source of the diseases of children. Nor are they much less so to those of riper age. Eating too much, and of unwholesome articles, is a national evil in the United States; and were I to add, a national disgrace, the charge would scarcely be too severe. Do you ask me whether it is more so in the United States than elsewhere? I answer, Yes; and the reason is manifest. Such is our happy condition, did we not abuse it, that it is much easier to procure the means of indulging to excess, in the United States, than in any other country. And experience, in common with history, teaches us, that mankind are prone to the gratification of the palate, and other animal appetites, in proportion to the facilities of indulgence they enjoy. I confidently believe, that the thirteen or fourteen millions of people, inhabiting this country, eat more

trash, *for amusement*, and *fashion's sake*, and to *pass away idle time*, than half the inhabitants of Europe united. Unquestionably they consume a greater amount of such articles, in the proportion of *five to one*, than an equal number of the people of any other country I have ever visited. Shame, if not prudence, should drive them from a practice, which might well be called disgusting. No wonder that European travellers ridicule us on account of it. In a special manner should children and youth be guarded from its influence, calculated as it is, to weaken their constitutions, and injure their intellects, and thus reduce the men of America below the standard he would otherwise attain. Nor will human nature ever reach the perfection our fine climate, abundance of wholesome food, entire freedom of mind and body, and other favorable influences belonging to our country, would bestow on it, unless the evil be remedied. For, that the Americans have it in their power, if they be true to themselves, and use, with wisdom, the advantages they enjoy, to become, bodily and mentally, the most perfect people the world has produced, might be easily shown, had I leisure to sum up the evidence which presents itself.

It is well known to every teacher, that children are comparatively dull, after dinner, and often sleep over their tasks. Why? Because they have dined on improper food, or eaten to excess of that which is proper. In such a case, the exercise of the brain, or of the mind, if the latter word be pre-

ferred, proves injurious, by producing indigestion. It expends, in the organ of thought, that portion of vitality, which should now centre in the stomach, to enable it to master the enemy within it—to convert the oppressive load of food it has received into chyme, and prepare it for chyle. Daily assaults of this sort on the brain, (especially the tender brain of children, which is not yet completely organized,) by errors in diet, cannot fail to do it permanent mischief. But, as already observed, the regulation of the diet of children belongs chiefly to family government. As respects the serious evils, however, arising from errors committed in it, teachers should be neither inattentive nor silent. Due representations and remonstrances, made by them to parents and guardians, might be productive of good. They have a better opportunity than most other persons, to witness the unfavorable effect, which the practice objected to, produces on the mind.

Those organs of the body, to which the attention of teachers should be more immediately and earnestly directed, are the lungs, the heart and blood-vessels, the muscles of voluntary motion, and the brain and nerves.

The chief measure requisite, in the education of the lungs, is the procurement, for pupils, of a competent supply of salubrious atmospherical air. And I need scarcely add, that to remain salubrious, it must be regularly changed. Independently of any deleterious impregnation it may receive, stagnation alone injures air, as certainly as water. The object

here referred to, involves the most important considerations, as it is impossible for health to be secured without it. The attainment of it depends principally on the site and construction of school-edifices. The buildings should stand in elevated, dry, and healthy positions, remote from swamps, and low, humid, alluvial soil. Or, if there be such nuisances in the vicinity, rows of bushy trees should run between them and the houses; the latter being erected on the windward side; on that side, I mean, over which the prevailing winds of summer and autumn pass, before they reach the miasmatic ground. On no account, if it can be avoided, should a school-house stand in a flat, damp, alluvial situation. And should there be no preventive of this, let the edifice be erected on an artificial hillock, or in some other way elevated fifteen or twenty feet above the level of the ground. By this means, the pupils being placed beyond the reach of the miasm that may be formed below them, will breathe a wholesome atmosphere. A stagnant atmosphere, however, as already mentioned, cannot long remain wholesome, more especially if it be charged with animal exhalations. To prevent, therefore, in schools, these two sources of mischief, the rooms should never be crowded, and ought to be so constructed, that their ventilation may be perfect, without rendering their temperature uncomfortable in cold weather. This state of things, so highly desirable, and so easily attained, is not usually found in houses of instruction, for junior pupils. On the contrary, the rooms are,

for the most part, crowded, sometimes jammed with children, too hot in winter, when the windows are closed, and too cold, and swept by currents of chilling air, when they are open. In such places, delicate children, especially if their lungs be more than commonly sensitive, can scarcely fail to contract disease. Or, should they escape actual disease, their delicacy and feebleness will be increased. For the preservation of health and vigor, when possessed, and their restoration, when lost, a supply of salubrious air is as necessary to the lungs, as a supply of sound and nutritious aliment is to the stomach. The one is not more essential to the production of healthy chyle, than the other is to the formation of healthy blood. And we shall endeavor to show presently, that, without such blood, not a single function belonging to man, whether it be physical, intellectual, or moral, can be in unimpaired health and perfection. For, heterodox as the sentiment may probably appear to some persons, it is, notwithstanding, true, that florid, well vitalized arterial blood, is as necessary to give full vigor to the intellectual and moral powers of the philosopher, statesman, and patriot, as it is to paint the roses on the virgin's cheek, and the coral on her lip. The reason is plain. That they may be in the best condition to perform their functions, the intellectual and moral organs, like other portions of the body, require a supply of well-prepared blood. And to form such blood is the province of the lungs, using, as their principal means, unadulterated atmospherical air.

But no room, even moderately filled with human beings, can retain a pure atmosphere, however judiciously it may be constructed for ventilation. Children, therefore, should be confined in such a place, but a few hours at a time, and not many hours in the entire day. That they may enjoy perfect health, a considerable portion of their time should be passed in the open air. There, the food of their lungs will be wholesome, and their respiration free; and they will derive from that function, all the benefit it is calculated to bestow.

Another useful measure, in the education of the lungs, is, for pupils to practise declamation and singing. Such training strengthens those organs, as certainly as suitable exercise strengthens the muscles; and it does it on the same ground. I again repeat, and it can hardly be too often repeated, that it is well-directed exercise alone, that invigorates and improves every form of living matter. Its effect thus to invigorate and improve, constitutes one of its most important laws. Nor is its ameliorating influence confined to living matter. It improves dead matter also. By judicious use, a bow grows better, and to the improvement of violins, flutes, organs, pianos, and other musical instruments, by being skilfully played on, all experience testifies.

As respects the salutary influence of singing, declamation, and other forms of loud speaking, on the lungs, Dr. Rush often said, and perhaps has left the fact on record, that, in the experience of a long life, he had never known a singing-schoolmaster,

an auction-crier, a watchman who called the hours of the night, or an oysterman, who cried his commodity through the streets, to be attacked by pulmonary consumption. The influence of declamation, by the sea-shore, amidst the roar of the surf, in strengthening the lungs of Demosthenes, might be cited, as testifying to the same effect.

The mere formation of good blood, however, is not alone sufficient to satisfy all the demands of the system. That fluid must be also circulated actively to every portion of the body, else the purposes of vigorous health are not subserved by it. To this end, the free and competent action of the heart is essential; and to that again, voluntary muscular action is no less so. However useful, well vitalized arterial blood is, as a stimulant, to excite the left side of the heart to the requisite degree of motion, experience proves that it is not alone sufficient for the purpose. Every one knows, that when he is motionless, his pulse is slow and comparatively feeble, contrasted with itself, when he is engaged in exercise. So is his respiration. Even when our exercise is moderate, we inspire a third or fourth oftener, in a given time, than we do, when we are still. Our inspirations are also deeper and fuller. More air therefore is received, in an equal period, into the lungs. But, other things being alike, the larger the volume of air that enters those organs is, the more completely is the blood vitalized and matured; and, if correspondingly circulated, the more efficiently does it contribute to the perfection of every function

of the system. Hence the health, vivacity, strength, and florid complexions of persons, whether children or adults, who exercise and respire freely in the open air, and the comparative paleness, delicate health, languor, and weakness of those, who pass their time in a state of inaction, even in the most spacious and comfortable dwellings. This truth is amply illustrated and confirmed, by contrasting the agriculturalist, who labors in the field, or the hunter, who roams the forest, with the secluded man of letters, or with the manufacturer, who closely pursues his occupation in a small and ill ventilated workshop.

In all parts of the world, and under all circumstances, highly studious and literary men have infirm health. The reason is plain. They exercise their brains too much, and their muscles, hearts and lungs, too little. Hence the whole frame is first debilitated, and ultimately deranged. The lungs and heart failing somewhat in their functions, the brain does not receive a sufficient amount of well-vitalized blood. Its vigor is diminished, therefore, by a twofold cause; exhaustion from its excessive labors, and a defective supply of sound arterial blood, which is its *vital food*. Though, in a given time, then, a literary man may accomplish a greater amount of work, by inordinate and unremitting cerebral toil, he cannot do it so well. In a particular manner, the product of his mind will have less brilliancy and power. It will be like the fruit of advanced age, contrasted with that of the meridian of life—like the

Odyssey of Homer, compared to the Iliad, or Milton's Paradise Regained, to his Paradise Lost. Another cause of the infirm health of literary men is, that they eat too much, or indulge in food too difficult of digestion. This renders them dyspeptic. Their stomachs being debilitated, in common with their other organs, the diet used by them should be of the most digestible kind; and it should be taken sparingly. Let such characters take more muscular exercise in the open air, and eat less; and they will enjoy much more health of body, and vigor and productiveness of mind.

As heretofore mentioned, light itself, which acts on us more freely, and to better effect, without doors than within, is friendly to both vegetable and animal perfection. Shut up in *entire* darkness, either man, quadrupeds, or birds, and you injure and enfeeble them. Casper Hauser, Baron Trenck, and many other persons that might be named, furnish memorable examples of this. *Partial* darkness, therefore, must produce on them an effect differing only in degree. It has been observed, that, other things being equal, dark work-shops, are less salubrious than well-lighted ones. To the perfection of our race, then, liberal exercise in the open air—a much larger amount of it than is taken by children at school, especially female children—is essential. Never will mankind attain the high standard, either bodily or mental, of which they are susceptible, until females, not only while children, but also during

adult life, take more and freer exercise, out of doors, than they do at present. I do not mean that they ought to run foot-races, wrestle, spar, fence, vault over six-bar gates, or in any other way hoiden it. Such masculine feats would suit neither their taste, delicacy, nor intended pursuits; nor are they requisite. No: I mean, that they should, as a duty to themselves, their contemporaries, and posterity, indulge in graceful and becoming exercise, in the streets, gardens, fields, lawns, roads, and pleasure-grounds, to a sufficient extent, to invigorate their frames, heighten their beauty, and strengthen their intellects. Should they even climb lofty hills, and craggy mountains, breathe the pure air, and enjoy the spirit-stirring and inspiring prospects they afford, the excursions would be beneficial both to body and mind. For, I repeat, that exercise, judiciously directed and indulged in, improves the latter, as certainly as the former. Walking then is one excellent form of exercise for females, and riding on horseback is another. It is praiseworthy in them, moreever, to learn to walk elegantly, because graceful motion adds to their accomplishments, and increases their attractiveness. The air of Josephine, in walking, was fascination; and an American lady, now in London, threw a spell over royalty, by the grace of her movement, in quitting the drawing-room. But, by *elegance* in walking, I do not mean primness, mincingness, or any thing artificial. Far from it. Let all be natural; but nature should be cultivated and improved. Let ladies afford reason to have

said of them, what the poet of Abbottsford said of his Ellen Douglass. —

'A foot more light, a step more true,
'Ne'er from the heath-flower brushed the dew,
'E'en the slight hare-bell reared its head,
'Elastic from her airy tread.'

In truth, that same lovely Ellen, though reared on a secluded island, amidst the highlands of Scotland, was mistress of many other attributes, several of them the mere result of health, and that health the product of lake and mountain exercise, which the most high-bred and courtly female might be excused for envying. For the same poet, who, had he written nothing else, has immortalized himself, by immortalizing her, farther tells us, that,—

'Ne'er did Grecian chisel trace
'A nymph, a naiad, or a grace,
'With finer form, or lovelier face.
'What, though the sun, with ardent frown,
'Had slightly tinged her cheek with brown,
'The sportive toil which short and light,
'Had dyed her glowing hue so bright,
'Served too, in hastier swell to show,
'Short glimpses of a breast of snow.
'And seldom o'er a breast so fair
'Mantled a plaid with modest care;
'And never brooch the folds combined
'Above a heart more good and kind.
'Her kindness and her worth to spy,
'You need but look in Ellen's eye;
'Not Katrine, in her mirror blue,
'Gives back the shaggy banks more true,
'Than every freeborn glance confessed,
'The guileless movements of her breast;
'Whether joy sparkled in her eye,

'Or wo or pity claimed a sigh,
'Or filial love was glowing there,
'Or meek devotion poured a prayer,
'Or tale of injury called forth
'The indignant spirit of the north.—
'One only passion unrevealed,
'With maiden pride the maid concealed,
'Yet not less purely felt the flame—
'O! need I tell that passion's name!'

Carriage-riding is, at best, a semi-sedentary occupation, and does but little good, in imparting strength. A lady possessed of a fine figure, who dresses with taste, and rides gracefully, never appears to more advantage, than when seated on an elegant and well gaited horse. Nor can she indulge in a more salutary mode of exercise. For younger females, it is equally beneficial. As riding on horseback, moreover, requires some boldness of spirit, the practice tends to lessen that female timidity, which is often inconvenient and injurious to its possessors, as well as to others. However desirable sensibility may be, in a reasonable degree, like all other qualities, it may become excessive, turn to evil, and impair health. Experience teaches us that it often does so, especially in feeble persons, in whom it is most prone to become inordinate, *on account* of their feebleness. To restrain it, therefore, so as to hold it within due bounds, by invigorating exercise, and judicious exposure to something bordering on danger, or at least resembling it, is an end that should be constantly aimed at, in the physical education of females—and also of males, who have any thing of

feminine susceptibility in their temperaments. Peter the Great had an instinctive dread of water, of which he was cured, by being repeatedly precipitated into rivers. On the same principles, Frederick III. had a troublesome excess of sensitiveness obliterated.

That it may be useful, in the highest degree, exercise ought not to be very severe. It should not amount to labor or straining. A form of it so violent, if it does no actual organic mischief, diminishes vitality, by an excessive expenditure of it, instead of augmenting it. Like excess in every thing else, it is wrong and injurious, *because* of its excess. Hence, some of the violent gymnastic exploits, practised occasionally in seats of learning, are better calculated to do harm than good. Though they produce salutary action in some of the muscles, they strain, exhaust, and injure others. Those who take exercise, for the sake of health and vigor, especially if they be delicate, should never carry it so far, either in violence or duration, as to induce fatigue. In a higher or lower degree, that is dangerous, and may prove the cause of actual sickness. The manual-labor system connected with some schools, is not only more useful in its objects, but better fitted to subserve health, than the common gymnastic one. Still, the moderate and graceful gymnastic exercises are so useful, and desirable, as the source of accomplishments, that I should regret their abolishment. One of the best forms of them is that of the sword, especially the small sword. It is, at once, elegant,

invigorating, and manly, giving fine play to all the principal muscles of the body.

Nor does it, as some imagine, foster a propensity to combat and blood. Far from it. That feeling belongs only to the bully and the ruffian. While a knowledge of the art of defence increases personal firmness and self-reliance, in cases of difficulty and danger, it is usually accompanied by a pacific temper, and a gentlemanly disposition. Nor can it well be otherwise. A fencing-school, properly conducted, is a place of polished courtesy, and therefore an institution peculiarly fitted for the cultivation of a graceful deportment, suavity of manners, and amenity of disposition.—Football and handball are useful exercises. So is swimming, when it can be properly practised. Besides giving vigor to the muscles, the latter contributes to health, by promoting cleanliness. It need scarcely be added, that the action of salt water on the skin, when it can be had, is considered preferable to that of fresh. It is a current and probably a well-founded belief, that habitual sea-bathing cöoperates with the purity of a marine atmosphere in bestowing on islanders their unbroken healthfulness and great longevity.

As an in-door exercise, for both males and females, nothing is superior to dancing. Besides the grace of movement, which it teaches, it gives action and excitement to the whole frame, the music and social intercourse contributing their part to the general effect. If it sometimes does mischief, by being carried to excess,—that is an abuse of it, and

does not justly bring reproach on its proper use, or furnish evidence that it ought to be discarded. As well might the use of food be discarded, because many persons abuse it, by eating too much. Ten thousand people injure themselves by the abuse of eating, for one who does so, by that of dancing. The exercise of swinging by the arms, if judiciously practised, is beneficial, especially to those who have weak chests. So is that of the dumb-bells, with various others, to which time does not allow me to refer.

It is of moment to observe, that severe exercise should never be taken during hot weather, or immediately after a plentiful meal. In the former case, the excitement of the exercise, added to that of the heat, has double force in exhausting vitality, and weakening the body; and, in the latter, too much cerebral influence, for the time, being expended in muscular action, the amount of it conveyed to the stomach is insufficient for the laborious function that viscus has to perform; and indigestion is the consequence. This fact constitutes the foundation of the Spaniard's *Siesta*, and of the repose, which, under the guidance of instinct, most of the inferior animals take after a copious repast. On the same ground, the savage of our forests, after overgorging himself, often consumes a natural day in the sleep of digestion. But it is a dreamy sleep, the brain being disturbed by the toils of the stomach. It is the source of those visions of war and hunting, which,

occurring in a brave, are often received as premonitions to action.

Such are some of the useful effects of muscular exercise, but not the whole of them. To speak summarily of it. By its aid, in maturing, vitalizing, and circulating the blood, that form of exercise contributes to the vitality of the whole system, to the size and tone of every organ, and the soundness and vigor of every function of it, the moral and intellectual ones not excepted. Nor is this all. Added to its enlarging and strengthening the muscles themselves, it gives them a promptitude and an adroitness of action, important in most of the concerns of life. What is man, without a vigorous and well-trained system of muscles?—instruments which he can turn with ease and effect, to any occupation, in which his fortune may summon him to engage?—which he can apply, at will, to matters of business, pastime, or pleasure? Without such muscular discipline and power, he would be wretched in himself, and a cipher in the world. Nor is the whole yet told. Elegance and symmetry of person, beauty of complexion, vivacity and force of expression, grace of motion, and all else that is attractive in human nature, depend, in a high degree, on well-directed muscular exercise.

Much is said about matter being a clog on mind; and that the soul is incarcerated within the body, like a prisoner in his cell. The sentiment is as impious, as it is untrue. Matter clog and incarcerate mind, and prevent it from acting in a manner suita-

ble to its powers! The assertion is a slander on HIM who made and governs both mind and matter. If the inferior substance be thus prejudicial to the superior, and so unworthy of it, as many pronounce it, why did the Deity link them together? No good motive could have led him to this; and who will dare to charge him with an evil one? Did he unite them through inadvertence or mistake, or because he did not know what influence matter would have on mind, until he had made the experiment? or, did they, when created, rush together forcibly, he having no power to restrain them? Did he yoke them, in sport and wantonness, that they might fall to civil war, and try which could do the other most harm, he enjoying their strife and suffering, as an amusement? or, was his motive a desire to show, how unharmoniously and incongruously he could pack the works of creation together? No one will *openly* impute to him faults or weaknesses like these. Yet all *virtually* do that, or something worse, who pronounce matter a hindrance to mind, in any of its operations. For aught that man can show to the contrary, mind would be as imbecile without matter, as matter would be, without mind. What can the latter do, without the aid of the former? Can it see, hear, taste, smell, feel, or move? Can it lift a pound weight, make a pin or a pen, or use them if already made, think, reason, judge, or perform a single useful act, intellectual or moral, theoretical or practical? If it can, let that act be specified and proved. I say 'proved,' because I wish for *realities*, not *supposi-*

*tions*, or *fancies*. I know we are told that the mind can do wonders, without the body—that it can traverse all space, with more than lightning's speed—outstrip light, in journeying from world to world, to study and enjoy the beauties, sublimities, and grandeur of the universe—that, if disencumbered of the shackles of matter, all creation would be subject to its inspection, ministering immediately to its information and delight—all these things, and many more, are *told* to us. But they are *only* told. They are not *proved*. Far from it. The contrary is proved, by evidence which we cannot doubt. All that the mind has any knowledge of, is matter. Of spirit, as already stated, it knows nothing. And all the means it employs to acquire knowledge, are matter. It sees with a material eye, hears with a material ear, thinks with a material brain, and moves, from place to place, in quest of information and pleasure, with material muscles and bones. Every implement, moreover, in addition to those received from nature, which it uses, either in science or art, are of matter. The mechanician works *with* matter, *on* matter. The chemist analyzes matter, by matter. The navigator triumphs by matter, over the world of waters, which are themselves matter; and the astronomer scans the heavens, with nothing else. Nor does saying and believing all this amount to materialism. Or if it does, materialism is truth; and, regardless of names, that is all I want. The entire doctrine comes to this, and nothing more. Mind, being the superior agent, uses matter, to effect pur-

poses, it could not attain without it; as the chieftain gains a victory, with his soldiers, which he could not achieve alone. He is as really the governing spirit of his army, as the mind is of the human body. It will be understood and remembered, that I have been speaking of mind, in our present state of being. The discussion of its powers and prerogatives, in a future state, is the province of others.

The inference to be deduced from the premises just stated, is, that physical education, which consists in the cultivation and improvement of our material organs, is a work infinitely more important than it is generally supposed to be. In fact, it alone, according as it is well or ill conducted, can raise human nature to the highest pitch of perfection, of which it is susceptible, or sink it to the lowest point of degradation. No language, therefore, can too strongly recommend, nor any measures too strictly enforce the duty of practising it.

The physical education of the brain shall now be the subject of a few remarks. I say 'physical,' for it is as susceptible of that form of education, as any other organ. So true is this, that it is the *only form it can receive*. And were that brought to perfection, nothing more could be done, nor would aught more be requisite, for the improvement of mind. For, as already mentioned and explained, cerebral and mental education are the same. Here, again, I must speak as a phrenologist; for, in no other capacity, can I treat rationally of the subject I am about to consider.

Like all other parts of the system, the brain, by suitable and well-regulated exercise, is enlarged, invigorated, rendered more dexterous in action, and therefore improved, in every respect, as the organ of the mind. This is as certain, as it is that the muscles themselves are improved by training. And, as is the case with other organs, it also may be exhausted and injured by too much, and enfeebled by too little action. For it should never be forgotten or neglected, as a practical truth, that, as action strengthens and improves living matter, inaction deteriorates and weakens it. That is one of the leading principles, by which physical education is to be directed. Indeed, it constitutes its foundation.

The brain is not a simple, but a compound organ. I should rather say, that it is an aggregate of many smaller organs, distinct from each other, yet closely linked in their condition, by sympathy. The soundness of one of them aids in giving soundness to the others; and the converse. These organs, being the instruments of separate mental faculties, are destined to the performance of separate functions, no one of them being able to perform any other function than its own; as the eye sees, but cannot hear, and the ear hears, but can neither taste nor smell. As these organs, which unite in making up the cerebral mass, execute different sorts of work, so can they work at different times, some of them being active, while others are at rest. In this again, they resemble the external senses; for the ear may be impressed with sound, while the eyes are closed; the eye may see,

while the ears are closed; and the sense of smell may be active, while that of touch is dormant. The cerebral, organs moreover, like the external senses, are excited to action, by different objects, and kinds of impression. Thus, the eye is acted on, only by light, the ear by sound, and the smell, taste, and touch, by odorous, sapid, and tangible matter. In like manner, one cerebral organ is acted on and exercised by language; another, by form or figure; a third by size; a fourth by number; a fifth by place; a sixth by tune; a seventh and an eighth, by objects and events; a ninth by color; and others again, by the agents appropriate to them. Each one, however, can be acted on and exercised only by things in its own line—by such, I mean, as specially correspond to it. The same organ, for example, which takes cognizance of size, and is exercised by it, cannot be excited by form, nor can that which is acted on by number, be influenced by tune, time, or place. And thus of all the others.

The organs I have here named, are intellectual ones. There are organs again, of animal propensity, such as love,* resentment, covetousness, cunning, and others of moral sentiment, as benevolence, veneration, justice, and firmness. These may likewise

* The reader will understand that the cerebral organs here referred to, are named in common language, best suited to those, to whom the Discourse was addressed. Technically, they are Amativeness, Combativeness, Acquisitiveness, Secretiveness, Benevolence, Vencration, Conscientiousness, and Firmness.

be excited to action, strengthened, and improved, each by its own peculiar agent and form of impression; and they may all be enfeebled, by a state of inaction. For I again repeat, that it is suitable action alone, which amends living matter, including that of every description, while a want of action deteriorates it, to the same extent.

This, though a very defective analysis of the brain, is sufficient, I trust, to render intelligible any remarks I have yet to offer; whereas, without it, there is reason to believe that I should not have been understood—an apprehension to that effect, is my reason for troubling you with this detail.

The perfect physical education of the brain consists in the competent exercise of every portion of it; so that each of its organs may possess due strength and activity, and be itself healthy; and that there may exist between them the equilibrium necessary to the health and regulated action of the whole. If one or more organs be exercised too much, they may become exhausted and debilitated, excited to inflammation, or a condition bordering on it, and not less truly morbid; while others, being exercised too little, or not at all, will be enfeebled by inaction. And thus must the health, not only of the brain, but of the whole system suffer. For I have already observed, and need scarcely repeat, that the brain being one of the ruling viscera of the system, any derangement of it, must injure the condition of all the others. I shall only add, that cerebral organs are prone to become exhausted, or

inflamed, according to their character. Are they small, phlegmatic, and feeble? severe exercise prostrates them. Are they large, high toned, and vigorous? intense exercise inflames them, or produces in them such irritability and inordinate action, as derange the balance of the brain, excite mental irregularities, and lay the foundation of cerebral disease.

This view of the subject shows the propriety and advantage of pupils pursuing several studies, or modes of mental exercise, at the same time, instead of being confined exclusively to one. It suggests, moreover the reason of it. By changing from one study to another successively, in the same day, those who are cultivating science and letters, not only learn much more than they could, under confinement to a single study, but do so with less exhaustion and danger to health. Why? Because, by closely studying one branch of knowledge only, in other words, by laboring all day with one cerebral organ, it becomes exhausted and dull, as every industrious student must have felt. When thus worn out, therefore, by toil, not only is it unfit to exercise further, with due effect, and master its task; but its health is endangered, if not, for the time, actually injured. It is in a fatigued condition, which borders on a diseased one, and often excites it. When, on the contrary, the pupil, feeling himself becoming unfit for one study, passes to another, he engages in the latter with a fresh and active organ, and makes rapid progress in it, until, beginning to be again fatigued and

dull, he changes to a third, or returns to that previously relinquished, the organ corresponding to it being reinvigorated by rest. To illustrate my views, by examples familiar to every individual, who has received an education.

If the pupil begin the study of language, say of Greek or Latin, in the morning, and continue it, during the whole day, he will be so toil-worn and dull, by night, as to be scarcely able to distinguish a noun from a verb. But if, instead of this injudicious and unprofitable course, he pursue the study of language two or three hours, then pass to mathematics, and next to geography or history, continuing each form of exercise, a reasonable time—by thus changing the working organs, and allowing them alternately to refresh themselves by rest, he may study with equal intenseness, and an equal number of hours in the day, and, by night, feeling little or no fatigue, have acquired much more knowledge, at a less risk of health, than he could have done by the protracted toil of a single organ. Independently of the attainment made in history and geography, he will have a clearer and better knowledge even of his task in language, than he would have acquired, had he brooded over it during the whole day. Shifting the toil, in this manner, from one organ to another, is like bringing fresh soldiers into battle, to relieve their exhausted comrades, or hands not yet fatigued, to the labors of the harvest field. By such changes, judiciously made, success is achieved; while any other mode of proceeding would result in failure.

Connected with this topic are two points, on which I am anxious to fix your attention, because I consider them peculiarly important. Much of their importance, moreover, arises from their being exclusively practical; and from the further fact, that serious and even fatal errors, in relation to them, are often committed.

That I may be the more easily and perfectly understood, I shall repeat what has been already stated, that very weak and dull organs, and very powerful and active ones, are differently affected, by excessive exercise. The former are prostrated and rendered unfit for action, as a feeble and phlegmatic man is, by danger and oppression; while, like a brave and powerful man, of a fiery temperament, the latter are roused to high excitement, and perhaps inflammation. Occurrences in illustration and proof of this, are not unfrequent in seats of learning.

Parents or guardians resolve, that a youth, whose organs of language, size, and number, are small and feeble, shall notwithstanding, be made a linguist, and a mathematician. To effect this, the pupil is compelled, or in some way induced, to labor to excess, with his feeble organs, which are easily worn out, until the exhaustion and injury they have sustained prove prejudicial and perhaps ruinous to his other organs, which are of a better cast, as well as to his general health. Fatuity and insanity have been thus brought on. Again,—Another pupil has the same organs in fine developement, and highly excitable, active, and vigorous. His talents for language and

mathematics, are discovered to be of the first order, and both he and his friends are ambitious that he should excel in the knowledge of them. Hence he is encouraged and incited to pursue the study of them, with such ardor and perseverance, as to produce in the organs exercised, a state of intense and morbid irritation, and perhaps inflammation. By this imprudent excitement, madness and phrenitis, with other grievous maladies of the brain, have been repeatedly induced. Of the indiscreet and excessive exercise of other strong and feeble organs, whether animal, moral, or intellectual, the same is true.

Is any one inclined to ask me, how he is to know when a youth possesses weak, and when strong organs, for particular studies? The answer is easy. The practical phrenologist makes the discovery by virtue of his art, and is rarely mistaken. Dr. Spurzheim did this in Boston, in scores of instances, to the surprise and delight of many of the most enlightened inhabitants of the place. And in Edinburgh, London, Dublin, and Paris, and other parts of Great Britain and France, the practice has become so common, that it surprises no longer. There being, however, unfortunately but few practical phrenologists in our country, those who are not so, may, from the following considerations, derive some portion of the knowledge desired. Every one takes pleasure in the exercise of his well-developed and vigorous organs, and exerts them with good effect; and the reverse. The exercise of his feeble ones,

is a matter of indifference, if not dissatisfaction to him; and he makes but little progress in any study in which they are chiefly concerned. Has a pupil, for example, a predominant taste for language, music, painting, and mechanical handicraft, or either of them? and does he make attainments in them, with ease and rapidity? his organs and faculties for them are good. Is the reverse of this the case? his organs for them are feeble. The practical precept deducible from this statement is plain. Never urge a pupil to an excessive exertion of feeble cerebral organs, it being both useless and dangerous—useless, because he can, in no way, become respectable himself, or render high services to others, by them; and dangerous, because it may impair his intellect, and destroy his health. For the same reason, do not encourage or permit a youth to persevere to excess in the exercise of highly sensitive and vigorous organs. The practice is like exposing an irritable or an inflamed eye to a glare of light, or assailing a phrenitic brain with piercing sounds. By a strict observance of these precepts, in seats of education, much time might be saved, which is now wasted, much evil prevented, and much good done. The necessity of their enforcement is strengthened by the fact, that children and youth of precocious and large developments, and unusually active and vigorous talents, possess, in general, delicate, and sometimes feeble constitutions. Their systems are therefore the more easily deranged, and should be guarded with the greater care.

From the preceding facts, another important precept may be drawn. Of a boy, whose whole brain is unusually small, never attempt to make a scholar, a professional character, or a man of science. The effort will not only eventuate in failure, but may prove ruinous to health. In a particular manner, it may induce fatuity, should the feeble-brained individual become severely studious. As well might you attempt to convert a dwarf into a grenadier, as a person with a very small head, into a man of a powerful and expanded intellect. Nor would it be less vain to endeavor to imbue with learning or science, a boy, whose brain is unusually large, in the animal compartment, and small in the intellectual and moral ones. Such an individual is formed, by nature, for a low sphere of mind, and no effort in education, can elevate him. Nor, could any training render him studious, would he be less liable to some kind of mental alienation, than the youth, whose entire brain is small. Individuals thus organized, may become great animals, and may even perform striking and impressive actions; but they can never attain rank, as men of intellect. In war, they may be brave and useful soldiers, and inferior officers, but must be totally incompetent to high command.

Does any one doubt, whether the moral organs and faculties can be exercised, and moral feelings indulged in to excess? and whether, in physical education, they ought to be, in any cases, restrained? Is it, on the contrary, the belief, that the more high-

toned every thing belonging to our moral nature is, its perfection is the greater? Let all doubt and delusion, on these points, be removed, by the recollection, that the organ of benevolence becomes, by inordinate excitement, so far deranged, in many persons, as to induce them to squander their estates, to the ruin of themselves and their families, in wild and unprofitable charities, and other acts of morbid generosity; while, by the ultra-excitement of veneration, hope, and wonder, others become religiously insane. Castle-building, running into mental derangement, as it often does, is likewise the product of inordinate action in moral organs. Go to a mad-house, and you will find fiery and vociferous religious insanity one of the common affections of its inmates. Every leaning of this sort, inordinately strong, should be moderated in children, by some form of counter-excitement. I mean, by giving, as far as possible, the feelings and thoughts a different direction. Yet the practice is too often the reverse of this. The youthful are encouraged in their enthusiastic devotions, until madness strikes them. Hence, on every occurrence of a new sect or denomination in religion, as well as in most cases of what are called *revivals*, religious enthusiasm effervesces, in many instances, into wild insanity. That there is much madness among the new sects of Mormonites, and Immortalists, no one can doubt. The cause is, ultra-excitement in some portion of the moral compartment of the brain. Even the sentiment of conscientiousness

may run to excess, and become productive of unreasonable scrupulousness and demur.

The great end of the physical education of the brain, as already intimated, is to strengthen the whole of it, and maintain a due balance between its several parts. What is commonly called *eccentricity*, *brown study*, or *absence of mind*, is but another name for a want of such balance, and is a true and dangerous bent towards madness. Augment it to a sufficient extent; in other words, excite sufficiently the irregular and extravagant organ, and real madness is the result. Hence, most persons, who become insane, especially those who fall into hereditary insanity, exhibit in their characters, even from childhood, some uncommon and ominous traits — something that is called *eccentric* or *queer*. In proof of this, the histories of the tenants of Lunatic Hospitals furnish abundant testimony. They show, that a large majority of those unfortunate individuals had been more or less eccentric. The evil consists in a state of supra-excitement and action, in some of the cerebral organs. And physical education alone can remedy it. Take the following anecdote, as an illustration of my meaning. A gentleman of Philadelphia, highly distinguished for his talents and standing, was subject to fits of extraordinary absence of mind, — in other words, to such entire absorption in the working of one or two of his cerebral organs, as to be insensible to that of all the others. He once invited a large number of his friends to dinner. On the appointed day, the guests assembled, in his draw-

ing-room, where he met them with his usual welcome and courtesy, and conversed with them, with his accustomed sprightlines and good sense. He became, at length, silent and abstracted, mused for a minute or two, and then, bowing to the company, begged them to excuse him, as he had an urgent piece of business to transact immediately. One of the gentlemen, well acquainted with the irregularity of his mind, addressing him familiarly, by his christian name, asked him 'Did you not invite us to dine with you to-day?'—'Did I?' said he—'perhaps so—I'll see.' He stepped into his dining-room, where a table was sumptuously spread for him and his friends. Returning to the company, he joined them, first in merriment at his absent fit, and then in the pleasures of the repast. The sequel is melancholy. He became deranged in his mind, and died in that condition, in the Pennsylvania Hospital.

As already suggested, the cure of this evil is to be performed, by giving rest to the over-active cerebral organs, and transferring the excitement to some of the others, that are less irritable. Phrenology teaches the mode of conducting this process, on which a want of time forbids me to dilate. Permit me, however, to observe, that its power to weaken, and, by its continued operation, through successive generations, ultimately eradicate a hereditary predisposition to madness, gives physical education much of its value. In fact, that form of education, (I mean physical) hitherto so much neglected, and still so imperfectly understood and practised, may be pronoun-

ced the ARBITER of the human mind, no less than of the human body. Its influence in strengthening or weakening, improving or deteriorating, all kinds of mental faculties and operations, is far greater than is commonly imagined. Through its instrumentality alone can man attain, in mind as well as body, the highest perfection of which he is susceptible. It is destined, therefore, to be the chief agent, in the production of the millennium, at whatever period that improved condition of our race may occur. This is as certain as it is, that a well-directed physical education is the principal means to improve, to the highest pitch, the qualities of our domestic animals. And that truth will not be controverted.

Let it never be forgotten, then, that the physical education of the human race ought not to be confined alone to the humble object of preventing disease. Its aim should be loftier and more in accordance with the destiny and character of its subject—to raise man to the summit of his nature. And such will be its scope, in future and more enlightened times.

In saying, that to promote and secure the health of the human system the brain should be educated and amended, I mean, as already intimated, the whole brain; its animal and moral, as well as its intellectual compartments. It is only by a general and judicious training, that the proper equilibrium between the cerebral organs can be established and maintained. And that equilibrium is as necessary to the sound condition of the whole body, as to that of the brain itself. It produces an equipoise of the

entire man, and holds in check the irregularities and excesses of both feeling and action, which prey on life, and tend to shorten it. Hence long-lived individuals have usually possessed a marked calmness and equability of character. Why? Because their brains have been well balanced. If their feelings were strong, so were their powers to control them. Men of a burning temper and boisterous disposition, who are perpetually running into extremes, and who pass much of their time between sinning and repenting, rarely attain to a very advanced age. The reason is obvious. Their health and strength are consumed in their own fires; and those fires come from the brain; I mean its animal compartment. That portion is the seat of what is usually termed *passion*, which, when fierce and unrestrained, resembles intemperance in the use of strong drink. It inflames or otherwise deranges the brain, hastens the approach of old age, and curtails life, on the same principles. In delicate and irritable systems, it often excites convulsions, and sometimes palsy, apoplexy, and madness.

The following facts testify to the truth of the principles just laid down. The life of women is more secure than that of men. In other words, fewer of them die in a given period. In each census of the British empire, the number of women is found to be greater than that of men. Yet there are more males than females born in the empire, in the proportion of 105 to 100. Though war, casualty, migration and death in foreign and sickly countries, account for

this in part, they are insufficient for the solution of the entire problem. The greater strength, more frequent and unrestrained bursts, and more constant burning of the passions, of men, contribute to the event.

Again. The less impassionate the pursuits of men of genius are, the greater is the average longevity of each class of them. Mathematicians and natural philosophers have but little in their studies to excite feeling or stir up passion. *The tenor* of their lives is generally tranquil. Hence the aggregate age of twenty of them, taken promiscuously, has been found to amount to 1504 years, giving to each the average of 75.

Poets, on the contrary, are proverbially an '*irritable genus*,' — men of strong and easily excited feelings, and a burning imagination. Their productions, moreover, being works of passion, their minds must be in tumult, during their composition. From these causes, the aggregate age of twenty distinguished poets has been ascertained to be 1144 years, giving to each an average of 57 — a very striking balance in favor of a mind free from passion!

In our efforts to produce an equipoise in the brain, one fact should be held in remembrance, and observed, as a leading ground of action. By nature, the animal organs are larger and more powerful than the moral or intellectual. This is the case in every one, but in some individuals much more strikingly so than in others. It is true of man, therefore, that he possesses, naturally, more of animality, than of real

humanity. Hence the comparative ferocity and savageism of the uneducated. Why? Because their animal organs, never having been restrained and tamed, predominate greatly over their moral and intellectual, more especially over their reflective ones. This constitutes the chief difference between the cultivated and the uncultivated portions of our race. The latter are more of animals; the former more of men.

This view of the subject indicates clearly the leading purpose of the physical education of the brain. It is to strengthen the moral and intellectual organs, by exciting them to action, each in a manner corresponding to its nature, and to weaken *comparatively* the animal organs, by restraining their action. Thus will the former attain, by degrees, such an ascendency over the latter, as to be able to control them, and give calmness and equability to the character of the individual — to convert the rude animal into the cultivated man. Nor is the condition of the brain thus produced, less friendly to the welfare of the body, than to the sound operations of the mind.

The influence of strong and well-cultivated morals and intellectual organs on the general health of the system is soothing and salutary, and feeds and strengthens it, instead of ruffling and wearing it out. Compared to the influence of the organs of passion, it is as mild and wholesome nourishment, contrasted with alcohol; or like the genial warmth of the spring and autumn, to the burning heats of summer. Life, and health, and comfort may last long under the former, while all is parched and with-

ered by the latter. Finally: a well-cultivated and well-balanced brain, does much to produce and maintain, a sound mind in a sound body. Let the attainment of it therefore be a leading aim, in physical education.

Of innumerable instances that might be cited, in proof of the principle here contended for, I shall refer to but one; and that is memorable in the history of our country. The Declaration of Independence was signed by fifty-six Delegates, all of them men of well-cultivated and well-balanced minds. In other words, their moral and intellectual had gained the requisite ascendency over their animal organs. Of these, two died of casualties, in the prime of manhood. The aggregate of the years of the other fifty-four was 3,609, giving to each an average of 66 years and 9 months; an illustrious example of the influence of well-cultivated and regulated brains, in conferring longevity on those who possess them. Several of these great and good men lived beyond their eightieth year, and some of them passed the age of ninety. It is not to be doubted that the avoidance of all forms of excess, and the general correctness of the habits produced, by this condition of the brain, contributes materially to the prolongation of life. The venerable Madison, of a feeble frame, possesses one of the best-cultivated and balanced minds that ever existed; and he is now in his eighty-fifth year.

The importance of the judicious education and general management of the brain, and the serious evils arising from neglect and errors in them, lead

me, though somewhat out of my immediate track, to make a few further remarks on the subject. My sense of duty, and therefore my ruling motive to this effect is the stronger, in consideration of the fact, that the thoughts I have to offer apply more forcibly to our own country than to any other.

Dyspepsia and mental derangement are among the most grievous maladies that affect the human race; and they are much more nearly allied to each other than they are generally supposed to be. So true is this, that the one is not unfrequently converted into the other, and often alternates with it. The lunatic is usually a dyspeptic, during his lucid intervals; and complaints, which begin in some form of gastric derangement, turn, in many instances, to madness. Nor is this all. In families, where mental derangement is hereditary, the members, who escape that complaint, are more than usually obnoxious to dyspepsia. It may be added, that dyspeptics and lunatics are relieved by the same modes of treatment, and that their maladies are induced, for the most part, by the same causes.

Somewhat in confirmation of these views, it may be further stated, that dyspepsia and madness prevail more extensively in the United States, in proportion to the number of our inhabitants, than among the people of any other nation. Of the amount of our dyspeptics no estimate can be formed; but it is immense. Whether we inquire in cities, towns, villages, or country places, among the rich, the poor, or those in moderate circumstances, we find dyspep-

sia more or less prevalent throughout the land. In other countries, this is not the case — not, I mean, to any thing near the same extent. True, in Great Britain, Germany, and France, the complaint assails the higher classes of society; but there it stops,— the common and lower classes scarcely knowing it, except by name. In Italy, Spain, and Portugal, it is still less common among all ranks of the people. The apparent cause of these things will be referred to presently.

Insanity prevails in our country to an alarming extent, and, in common, with dyspepsia, is on the increase. The entire number of the insane, in the United States, is computed at *fifty thousand* — a most startling aggregate, and, I trust, beyond the *real* one — yet the real one, were it ascertained, would be very great; sufficient to excite strict inquiries into the cause, accompanied by strenuous efforts for its removal. According to a late and very intelligent writer, * whose information and accuracy deserve our confidence, there are *a thousand* lunatics in the State of Connecticut. This is in the ratio of *one* to every *two hundred and sixty-two* of the inhabitants of the State. In England, the number of insane persons does not exceed *twelve* or *thirteen* thousand. In the agricultural districts, there, the average ratio is about *one in eight hundred and twenty* of the whole population, being to that of Connecticut less than one to three. Yet in England the disease pre-

* Dr. Brigham.

vails to a greater extent, than in any other nation of Europe. In Scotland, the general proportion, including towns and cities, as well as country places, is *one in five hundred and seventy-four.* There is every where more madness according to the amount of population, in cities, than in the country. In Spain and Russia, the large cities excepted, there is very little; in Turkey, Persia, and China, still less. Of Hindostan I believe the same is true. And in savage nations, especially where no ardent spirits are used, the complaint is scarcely known. Such is the report of all travellers among the Indians of North and South America. To this may be subjoined that the insanity of a people is increased, by the occurrence among them of any deep and extensive mental commotion, whether from theological or political causes. Such, as history informs us, was the effect of the Reformation by Luther, of the Revolution by Cromwell, of the American Revolution, and more especially of the first Revolution in France. During the convulsions of the latter event, the frequency of insanity in Paris was frightful.

From these facts it appears, that in proportion to the freedom of action of the humam mind in any country, more especially in proportion as it is tossed and perplexed by strong passions and emotions, is the amount of madness, by which that country is visited. This result we should expect, from calculation on well-known principles; and observation testifies to its truth. In common times, there is more mental agitation in Great Britain, than in France;

more in France, than in Spain or Russia; and much more in either of them, than in Turkey, Persia, or China. And, in savage tribes, except during the hours of hunting and battle, there is no mental agitation at all — none certainly of a *distracting* character. The causes of these several facts are plain. It clearly appears that, in civilized nations, the degree of distracting mental emotion, which the people generally experience, is in proportion to the amount of the freedom they enjoy. And that again depends on the more or less popular characters of their governments. The people of England and Scotland enjoy more freedom than the people of France; and the latter more than those of Spain or Russia. In Turkey, Persia, and China, political freedom is unknown. The despotism of government compresses the minds of the subjects into a dead and hopeless calm. Unable to render their condition any better, the degraded population cease, in appearance, to wish it so, or even to disquiet themselves by a thought on the subject.

Very different is the condition of things in the United States. Our freedom, both political and religious is ample; and we push and enjoy it to its utmost limits. Our institutions, moreover, of every description, are as popular as comports with social order and sound government. State and church preferment and office are open to every one, and the ardor, keenness and constancy of competition and struggle for them, have no example in the practices of the present, or the history of the past. The fervor and

commotion of electioneering intrigue has no respite. Under some form, the country is agitated, I might almost say convulsed by it, from the beginning to the end of the year — and of every year. Thus are the angry and burning passions kept forever awake among the people, and often urged to the most intense action. My present allusion is chiefly to the interminable and embittered war of party politics.

Of party religion nearly the same is true. Sectarian embroilment, battle, and intrigue are constant, furious and vengeful. Sometimes the strife is about a doctrinal tenet, at other times about a formal rite or ceremony, and again for the achievement of power and influence,—one sect struggling for the mastery over the rest — at least to outstrip them in schemes of ambition. Nor must I forget the fervid and unceasing labors of the pastor and preacher for the conversion and edification of his flock, and the wild and convulsive emotion he often produces in their minds. In no other nation are these several forms of excitement half so high and agitating as in the United States. A similar condition of things exists in the congregation of the celebrated Irvine, of London, many of whose hearers are occasionally deranged.

Another source of deep disquietude to the inhabitants of our country, is the desire and pursuit of wealth. A more ardently money-loving and keenly money-seeking people than the Americans does not exist. I doubt much, whether, in these respects, any equals them. The reason of this is plain. The

nature of our government and of all our institutions encourages and urges every one to aim at standing and power; and the possession of wealth aids greatly in the attainment of them. Indeed, hereditary titles and standing being unknown to us, the only actual elements of rank and power in the United States are wealth and place. Without these, talents however splendid, and knowledge however varied and extensive, give to their possessor but little influence. Nor is this all. Owing to our youthful and unsettled character, as a people, the modes of acquiring wealth are not so well established in the United States, as in the countries of Europe. Business does not run in so regular a channel. There is more of random traffic and speculation in it. And these forms of transacting it, being often suddenly productive of great profit, and at other times of ruinous losses, and keeping the mind constantly on the stretch of the calculation of chances, are much more exciting and harassing, than they would be, were they more uniform and certain. Men engaged in regular and well-settled business pursue it mechanically, are calm during the day, and sleep soundly at night. But dealers and speculators, besides being constantly disquieted while awake, are tossed between sudden wealth and ruin in their dreams. They are equally distracted by the uncertainty and the unexpected occurrence of events.

Such are the three leading sources of mental commotion in our country — party politics, party religion, and the love of wealth. Nor is it to be doubt-

ed, that they produce in the minds of the people, a greater amount of harassing and giddy excitement, than exists, perhaps, in all other nations united. But mental excitement is only another name for cerebral excitement. Nor must it be forgotten, that the early mismanagement and debilitating practice of overworking the brains of children, in infant and other early schools, disqualify them to maintain their soundness, in after life, under a degree of irritation, which they might have otherwise sustained, without much injury. If the lungs be injured and weakened, in infancy or childhood, no one doubts that the individual thus affected, will be more than usually liable to pulmonary complaints. Why? Because the lungs are not only more susceptible of malign impressions, but less able to resist them, and escape the mischief they are calculated to produce. Of the brain, the same is true. If it be weakened in childhood, it will be afterwards inordinately liable to morbid affections, and too feeble to contend with them.

That these causes contribute to the production of the inordinate sum of insanity, which prevails in the United States, is too plain to be held in doubt. For madness is the result of cerebral excitement, rendered deleterious by the excess in quantity, or the malign qualities of the irritants that produce it. Nor can any cerebral irritant be more noxious, either in kind or degree, than the cankered and fierce religious and political passions, which are constantly goading the American brain. Under such circumstances, it

would be wonderful, if attacks of insanity were not unusually frequent among us.

But can the same causes prove also instrumental, in the production of dyspepsia?—No doubt of it. That complaint *commences*, perhaps, as often in the brain, as in the stomach. Possibly oftener. That this is true of the disease in Europe, will scarcely be denied, after a fair examination of the facts connected with it. It is there, almost exclusively, a complaint of the studious and the scheming, who, overtasking their brains, injure them by toil. Among the husbandmen of England, who steadily pursue their tranquil mode of life, regardless of the fluctuations of stock, the bickerings of party, the fate of political measures, and the changes of place, dyspepsia is almost a stranger. Yet many of those men are great eaters, and far from being very choice as to the quality of their food. In the cities, the same is in a great measure true of merchants, manufacturers, and mechanics, who are engaged in a regular and well-established business, which is fully understood by them, where the risk is slight, and the profits sure, and no disquieting anxiety attends it. Such individuals have a good digestion, and bear the marks of it. But, with literary men, officers of state, dealers in scrip, daring adventurers, and anxious and ambitious projectors of improvements—with these, and every other brain-worn class of persons, the case is different. Dyspepsia is their torment; and they exhibit deep traces of it, in their lean frames, and haggard countenances. Yet are they much more select in their

diet, both as respects quantity, quality, and cooking, than the classes to whom dyspepsia is unknown. This fact is notorious, and has been so for centuries. Nor can it be attributed, I think, to any other cause, but excessive and deleterious cerebral irritation, in the one case, and an exemption from it, in the other. And this cause seems sufficient to solve the problem.

That it is not exclusively the labor and irritation of the stomach that produces dyspepsia, appears from innumerable other facts, a few of which, I shall recite. Children not too much confined in school, or otherwise mistreated, though great and often promiscuous eaters, are rarely dyspeptic. The reason is plain. Their brains are neither toil-worn nor care-worn; and they enjoy the requisite amount of sleep. Their brains are not irritated and exhausted by burdensome tasks. The North American Indians eat, at times, enormously, and that after a *long fast*, which, on well-known principles, increases the danger of overloading the stomach. It is said that, on these occasions, the meal of a single Indian, is equal to that of from four to six white men. The food, moreover, is badly cooked, and therefore indigestible. Yet the savage escapes dyspepsia.

Of the Esquimaux Indians, the same is true, to a still greater extent. An individual of that tribe, as we are confidently assured by Captain Parry and Captain Lyon, eats with impunity from ten to twelve pounds of solid animal food, in the course of a day, and swallows along with it, in the form of drink, a gallon of oil. Captain Lyon further relates, that a

young female Esquimaux ate a large amount of candles and their wicks, without sustaining either sickness or dyspepsia. These statements we are compelled to believe, on account of the high respectability of the authors of them.

Of the gluttony of the Siberians, stories are told, not perhaps altogether so worthy of credit. Were not that people, however, enormous eaters, such stories would not be invented. The accounts are but exaggerations of extraordinary gormandizing. It is asserted by travellers, that a Siberian often eats, in a day, *forty pounds* of solid food; and Admiral Saritchaff reports, that he saw one of that people, eat, *immediately after breakfast*, twenty-five pounds of boiled rice, and *three pounds* of butter. Yet, as already stated, neither Siberians nor Esquimaux, are annoyed by dyspepsia. And they, no doubt, owe their safety, in part, to their freedom from wasting cerebral irritation.

For the same reason the inferior animals have no dyspepsia, though they often gorge themselves to great excess. When they thus violate moderation, nature teaches them what to do for safety. They instinctively lie down and sleep, giving entire freedom and rest to their brains. A common black snake swallows a rabbit or a squirrel nearly as weighty as itself, and goes into a partial torpor, until its meal is digested. A boa-constrictor swallows a goat or an antelope, sleeps nearly a week, and wakes without dyspepsia or uneasiness, prepared for another similar exploit. Two dogs of the same age, size,

and strength, having eaten the same amount of the same food, one of them goes to sleep, and the other enters on the chase. In from three to four hours, the meal of the sleeper is digested, while that of the runner is unchanged in his stomach—and the latter dog is probably disordered, while the former retains his health. These facts show, that tranquillity of the brain is favorable at least, if not essential to the process of easy and sound digestion.

The powerful influence of a disordered brain, over the digestive system, is manifested in the effects of a severe blow on the head. These are vomiting, gastric inflammation, hepatic derangement, amounting at times, to abscess, and again, to torpor of the liver, with other forms of abdominal disease. Sea-sickness, moreover, is a cerebral affection, thrown on the stomach. So is the sickness produced in many persons, by whirling the body, and riding in a carriage, with the back toward the horses. The emperor Napoleon died of a gastric affection, in St. Helena, where such complaints are scarcely known. He was, moreover, a very temperate eater. But he had deep sensibility and powerful passions. The most probable cause of his disease, therefore, was mortification at the loss of empire, resentment and chagrin at his exile and confinement, vexation at the treatment he received from the governor of the island, and inconsolable grief at being separated from his family. These causes, goading his brain almost to madness, threw their influence sympathetically on his stomach, and destroyed him.

Nor is the whole yet told. Grief is nothing but a painful and deleterious cerebral irritation. Females experience that passion in its greatest intensity; and it is, to them, a very productive cause of dyspepsia. So is jealousy, a passion which they also feel, with peculiar acuteness and distress. And every painful passion and emotion, is but another name for excessive and hurtful irritation of the brain, which, if long continued, never fails to injure digestion. Even anger arrests the process of digestion. Nor are females the only sufferers from such irritation. Males, also, are its victims.

A man in perfect health, and with a fine appetite, seats himself at table; but, before he has began his meal, a messenger communicates to him, some distressing news. His appetite vanishes; and the very sight and odor of the food becomes offensive to him. Or, has he just finished his repast, when the message is delivered? If he be not actually sickened by it, and forced to discharge the contents of his stomach, indigestion, sick headache, and perhaps feverishness, are the result. And what student does not know, that effects, somewhat similar, are produced by severe intellectual toil, immediately after a plentiful meal? That dyspepsia, moreover, is proverbially one of the *morbi studiosorum*, one of the complaints of the studious, is a truth familiar to every one. Nor is it less notorious, that men who think but little, and are exempt from care, seldom suffer from it. The cheerful and jolly do not often become dyspeptic—the grave and care-worn, very frequently.

This truth has been long, and familiarly known. Cæsar manifested his acquaintance with it, when he spoke of the countenances of the gay and cheerful Antony, and the deeply thoughtful Brutus and Cassius; the former fresh, full, and ruddy, the latter pale, sallow, and care-worn.

But my argument is not yet closed. The most successful mode of treating dyspepsia, favors the belief, that it often arises from cerebral irritation, and is always perhaps connected with it. Am I asked, in what this treatment consists? I reply, in regulating the passions, taking muscular exercise, in the open air, abandoning intellectual toil, and retreating, for a time, from business and care. Unless the complaint be so inveterate and deep-rooted as to have produced some serious organic lesion, this course of treatment, steadily pursued, will cure it, without either the use of much medicine, or confinement to a very strict diet; and it can often be cured in no other way. To him, whose brain is constantly on the rack, dyspeptic medicine and diet are of little use.

How often do we find the efficacy of this mode of treatment, verified. An individual deeply devoted to books and study, becomes dyspeptic. Without mitigating his intellectual labors, he tries various remedies for the restoration of his health. For months, and perhaps years, he eats by weight, of prescribed articles, and dresses and exercises by measurement and rule. During this trial of his patience, tea and coffee are rejected; new milk, boiled

rice, and bread, stale, or made of unbolted flour, with fresh eggs, and well-prepared mutton chops, being his only food, and water his only drink; and he walks every day, at stated hours, a given number of miles. Finding this treatment ineffectual, he resorts to daily horse-exercise, under an assurance from some very 'skilful doctor,' or perhaps a 'knowing nurse,' that that will cure him. But, instead of being removed, or even lightened, his complaint grows worse. During these experiments, he has continued to return regularly from his meals, and his horse and foot exercise, to his books and his pen, thus irritating and exhausting his brain, by uninterrupted labor. At length, impatient of trials, that have proved so unavailing, he renounces medicine and regimen, resolves to become master of himself and his movements, and takes his case into his own hands. Under this determination, he shuts up his study, mounts his horse, and sets out on a journey, to visit a friend, a couple of hundred miles distant, riding during wet weather, as well as dry, and living on the common fare of travellers. Before he has proceeded a hundred miles, his health is much improved; and, on reaching the dwelling of his friend, he finds himself well.

This is no fancy-case, but one that has innumerable examples in life. To what is the cure to be attributed? The dyspeptic has previously conformed most strictly to dietetic rules, and travelled, on foot and on horseback, some thousands of miles, in fine weather, and through a pure atmosphere, without

any benefit to health; yet he is now cured, by riding two hundred miles, a part of the way in bad weather, and living, in the mean time, on indifferent food. The cause of the salutary effect of his journey, is easily rendered. Having relinquished his intellectual toils, his brain is at ease, and no longer injures his digestive organs, or any other part of his system. On the contrary, by acting salutarily on them, it benefits them, and enables them to perform their respective functions. Let him immediately return to his studies, with his usual intensity, and his complaint will revisit him.—Instead of a man of letters, suppose the dyspeptic to be a statesman, an artist, or a man of business; the result of the specified measures will be the same. Cerebral quietude will contribute much to the restoration of his health.

Again. It is well known, that individuals, who, under all sorts of treatment, have been tormented by dyspepsia, from the age of twenty-five or thirty, to forty or forty-five, very often recover their health, and from having been thin, become fleshy, about the latter period, after having abandoned medicine entirely, and relaxed not a little, in the strictness of their regimen. To use their own language, they seem to have 'gotten well, without any cause.' A satisfactory cause, however, is not wanting. They are less harassed and corroded by care, passion, and mental labor—in simpler and more philosophical language—they experience less cerebral irritation, for one of the two following reasons, or both united. They have attained the object, for which they had

previously toiled, and disquieted themselves; or, age and experience have somewhat blunted their sensibilities, and calmed their passions; or both causes, have coöperated to the same end. For similar reasons, dyspepsia rarely commences in an individual, after his forty-fifth or fiftieth year. Time has diminished the susceptibility of his brain.

Such appear to be the leading causes of the alarming frequency and increase of madness and dyspepsia, in the United States. The same irritation which, in some cases, produces the former complaint, in others gives rise to the latter, by not only disqualifying the brain for acting beneficially on the stomach and the other digestive organs, but by rendering its influence injurious to them. Nor can it be doubted, as already intimated, that Infant Schools, under their present administration, are calculated to increase the evil, by giving a morbid growth and susceptibility to the brain. So, as heretofore mentioned, are intemperate eating, and other improprieties in diet and drink. The only effectual remedy, is a well-directed physical education.

Were I asked, how severe cerebral irritation and labor injure the stomach and other digestive organs, my reply would be, In a two-fold way; sympathetically and functionally. In the latter mode, the brain, being unfitted for its healthy action, and in some degree exhausted itself, withholds from the whole digestive system that measure of influence and aid, known to be essential to the performance of its functions. In what this influence consists, is

not exactly known. It is probably, however the product of a subtle and peculiar form of matter, which the brain prepares from the blood, and transmits, by the nerves, to the other parts of the body. That a communication between the stomach and the brain is necessary to digestion, experiment proves. When that formed by the nerves is interrupted, the digestive action is suspended; when restored, the process again goes on. Since, therefore, the entire want of the cerebral influence injures the stomach, any irregularities or bad qualities in it can scarcely fail to do the same.

Did time permit, it would be gratifying to me to revert to the consideration of the moral influence of the brain, and to speak of it more fully, and in a manner more worthy of its importance than I have heretofore done. That a sound, well-developed, and well-regulated condition of that organ is as truly the source of correct morals, as a healthy condition of the heart and the lungs is of the due circulation and arteriolization of the blood, is a truth admitted now by all who have thoroughly studied the subject, and which is destined, at no very distant period, to be without an opponent. On this ground alone can moral education and reform be rationally and successfully conducted, and brought to the perfection of which they are susceptible. The moral organs of the brain, and the reflecting ones, as their adjutants, must be strengthened by regular and well-directed exercise, and thus rendered more ready in action, as well as more vigorous. Immorality and

crime are the product of the animal organs; and the reason of their being committed is obvious. These organs preponderate, if not habitually, at least for the time, over the moral and reflecting organs. Instead of being subordinate, as they ought to be, they take the mastery, and, by running into excess, bring guilt on the individual; precisely as the crew of a vessel sometimes mutiny, break from the control of their officers, and perhaps murder them and plunder the ship. The source of every crime is the same, the preponderance of the animal portion of the brain; and the radical extinguishment must be also the same, the reduction of the strength of that portion, and its being brought to a state of subordination to the higher organs. Every habitual offender has a brain in some way unsound. There is a want of balance and harmony between his cerebral organs, which amounts to derangement, and calls for skilful treatment to remove it. And, without such treatment, his moral malady will as necessarily continue, as must a dislocated joint remain in a deranged condition, if it be not reduced. To carry out the figure, except in far-gone cases, the moral disease can be remedied by judicious treatment, as certainly as the articular. The remedy, moreover, is simple. It consists in bringing the offending animal organs to a state of comparative *inaction*, which will diminish their strength, and giving constant exercise to the moral and reflecting organs, by which their power and promptitude in acting will be increased. Thus will the truly *human* portion of the brain attain an

ascendency over the *animal*, and man will advance toward the perfection of his nature.

Is any one inclined to request me to be more explicit in pointing out the means of moral education and reform, and in specifying the mode in which the process is to be conducted? If so, I could not answer him better than by directing his attention to several of the penitentiary establishments, and all the Houses of Correction for juvenile offenders in the United States. There, to a certain extent, the means are already in operation, and in some of the institutions, the prospects are very flattering. In many cases, vicious and criminal propensities have been extinguished, and habits of morality and virtue established. In other words, the inordinate action of the animal organs has been allayed, and that of the moral and reflecting invigorated.

The means of effecting this are few and simple. By being withdrawn from the community, and, in many cases, by solitary confinement, the culprits are strictly guarded not only from the commission of crime, but from all temptation to it. Thus are their animal organs, which are prone to offend, reduced to a state of comparative inaction, which, in time, deprives them of much of their strength, and weakens, in a corresponding degree, the appetite for vice. For the propensity to transgress is but the craving of a powerful and highly excited organ. But this alone could not be denominated moral reform. At most, it would be but negatively so. To weaken one class of organs is not exactly tantamount to the strength-

ening of another, even though they be antagonists. Other measures therefore are added. The offenders are strictly practised in some form of useful industry, which not only occupies the mind, and withdraws it from thoughts of vice, but is itself a moral duty. Nor is this all. Moral and religious instruction is directly inculcated on them by reading, preaching, conversation, remonstrance, advice, example, and practice. This, by exciting and exercising their moral and reflecting organs, confers on them positive strength, and except in the worst class of cases, gives them ultimately an ascendency over the animal. Then is the permanent bias of the mind turned toward virtue, and the reformation of the offenders is complete.

When established on correct principles, and skilfully administered, Penitentiaries and Houses of Correction are *moral hospitals*, where criminal propensities are treated as diseases, consisting in unsound conditions of the brain. And in such conditions they do consist, as certainly as hepatitis does in a morbid state of the liver, or dyspepsia, in a similar state with the stomach. And, by judicious treatment, they can be as certainly removed. Nor is it possible, on any other principles, to purify and strengthen our moral nature, and raise it to the height and confer on it the dignity, of which it is susceptible. Yet all this amounts to nothing more than the application of physical education to the moral organs of the brain. In treating of it, therefore, I have not in any degree departed from my subject.

I have only brought to bear on it matter of illustration not usually employed, but not, on that account the less appropriate and useful. I shall only add, that the time and treatment necessary for the removal of a malady must be apportioned and accommodated to its strength, fixity and aggravating circumstances. And as there are cases of incurable derangement in other parts of the body, so are there in the brain, of that which creates a propensity to crime. In such instances, the interests of society can be duly protected, only by the confinement of the culprits for life, or their capital punishment.

In the training of the brain, the proper management of sleep is of considerable moment. Children require more sleep than adults, and some children more than others. Young infants should be allowed to sleep a greater portion of their time. As they advance in years, a less proportion will be not only sufficient, but more salutary to them. For children and youth pursuing their education, from seven to nine hours of sleep, out of twenty-four is enough. Many do not require more than six. Less than that might prove injurious, especially if the abstinence were long continued. Too little sleep weakens the brain, and consequently the entire system, by *exhaustion;* too much, by *inaction.* For sleep consists in the quietude of the brain. Of this, as of other things, a mean quantity is best. An excess of sleep has produced idiotism; a deprivation of it, madness — and sometimes inflammation of the brain.

It is not unimportant to observe, that a life of strict

temperance curtails materially the time necessary to be spent in sleep. For this there are sundry reasons, two of them leading ones. The intemperate require a greater amount of actual sleep, on account of the deeper exhaustion of their systems. But their sleep, never healthy, is broken, dreamy, and comparatively unrefreshing. It is the sleep of bad digestion, their stomachs being oppressed, by a superabundance of food. Hence they are compelled to consume a greater length of time, in acquiring the necessary degree of repose. The temperate and regular, on the contrary, are comparatively strangers to dreams. They rest profoundly, and enjoy a fuller measure of sound and refreshing sleep, in six hours, than the intemperate do in nine. In this way, they save, in the course of a life-time, several years of active and useful existence, which, to those of contrary habits, are lost in sleep and drowsiness.

As neither their bones nor muscles are yet confirmed in strength, the manner in which children hold themselves in school, is not unimportant. They should sit as erect as their employments will admit, lest they contract ungraceful and pernicious habits of stooping or distortion; and they ought not to be permitted, much less compelled, to sit long in one position, but be directed to change it, by standing, or in some other way. This will prevent numbness of their limbs, and other unpleasant effects from stillness and compression. Want of motion, produces in many, a coldness of the feet, which weakens their attention to study, and brings on headache and dys-

pepsia. In a special manner, children should not be allowed to lean heavily, on the breast or stomach, against desks or tables. Gastric derangement and pulmonary consumption have been the issue of such practices. Pupils have often suffered, in their eyes, from a strong glare of light, through a window in front of them. Such accidents should be carefully guarded against.

The practice of self-pollution, among youth at school, especially in boarding-schools, is much more frequent than is generally imagined. And no vice is more detestable or ruinous. Health, intellect, morals — all purity, dignity, and self-respect sinks beneath it, in promiscuous and hopeless ruin. When carried to excess, it produces idiotism, in the most deplorable and disgusting form, accompanied by impaired vision and hearing, paralysis, and other distressing infirmities, and terminates in death. No vigilance to prevent it therefore can be too strict; and, when it is detected, no remonstrance against it can be too solemn, no representation of its direful effects too strong, no denunciation of it too stern, and, if persevered in, no penalty for it too heavy. But it inflicts its own penalty, in the entire desolation of the being, who perpetrates it. Not confined, in its effects, to the offenders, it falls as a lasting blight on their posterity. In boarding-schools, moreover, the practice is contagious, spreading from one to another, until many, if not the whole, are polluted. The first culprit detected, therefore, should be removed from the institution, as a moral lazar, dangerous alike to

purity and soundness of mind and body. But he ought not to be hopelessly abandoned to his fate. Every practicable expedient to reform him should be adopted and persevered in. And the best plan of reform consists in some active and interesting employment, engaged in with alacrity and industriously pursued — so industriously as to banish idleness, and allow but little time even for amusement; for leisure and idleness are often the source and always one of the nurses of the evil to be corrected. And if all other means fail, marriage should be resorted to, as soon as the individual has arrived at maturity, and is in a condition to form that alliance. This vice occurs in families, as well as in schools. Every where, therefore, in the physical education of youth, its prevention is a point of infinite moment. I shall only add, that, in proportion as the temperament is active, the development of Amativeness full, the moral and reflecting developements deficient, and the individual diffident and easily abashed, is the danger of his contracting the vice. In the same proportion, therefore, should be the exertions made to protect him from it.

Of dress, as a means in physical education, I have already spoken. A few further remarks on it, and I shall close my discourse. No article of dress should so compress any portion of the body, as to injure the skin, diminish the size and vigor of a muscle, restrict the flexibility of a joint, oppose a hindrance to the innervation of the part, or prevent the free circulation of the blood. If any thing be

benefited by unlimited freedom of action, it is the system of man, in its organized capacity — I mean the whole system.

Pinching shoes and boots do much mischief. That they produce tormenting and crippling corns, every body knows in theory, and too many by woful experience. But this is not all, nor even the worst. They check the circulation of the pedal blood, make the feet cold, and sometimes aid in chilblaining them, diminish the size of the muscles of the part, and take from them their strength, and impede their action, by compressing them. Hence no one too tightly shod, walks either with elasticity or grace, or receives from the exercise half the benefit it would otherwise bestow. In truth, he is often injured by it. That an individual may move lightly or firmly with grace or usefulness, his feet must be springy and free. But cramping and torturing them by pressure, does further mischief. It produces, sympathetically, dyspepsia and headache, and sometimes troublesome affections of the breast. Hemorrhagy from the nostrils and lungs, and even apoplexy and pulmonary consumption are occasionally excited by it. I shall only add, that tight shoes disfigure the foot. The ancients were strangers to such torturing articles. Their sandals were light and easy. Hence the free and elegant form of their feet. This is seen in the Venus de Medici, the Perseus, the Antinous, the Apollo Belvidere, and many other choice relics of antiquity. Let the feet of those statues be compared with the feet of *elegantes* and *dandies*, of the pres-

ent day, and the beauty of the former will be found to be transcendent.

The time was, but has fortunately gone by, for the present, when buckskin inexpressibles, far tighter than the skins of those whom they tormented, were nearly as bad, in the effects they produced. Though not equally painful, they were, in some respects, even more annoying and discomfortable. The first 'trying-on' of those articles, in which the strength and skill of the maker of them, backed by one or two able-bodied assistants, were indispensable, was a fearful job—especially if the weather had sudorific qualities in it. And when, by a horse power or two, the garment was at length dragged home, buttoned over the knees, and strapped round the legs, then began the tug for motion. The victim of fashion walked as if some of his joints were anchylosed, and others tightly bandaged, on account of recent dislocation. From the waist downward, there was less pliability in him than in the limbs of a centenarian, or a gourmand, stiffened by chronic gout. Nor was this all. His blood, being denied a free passage, in a downward direction, like that of the Plantagenets, 'mounted' upwards, made his neck and face swell, and his eyes protrude, and turned his cheeks as red as the gills of a fish. This inquisition-work, long persisted in, could not fail to be productive of mischief. The whole, however, being an act of homage, at the shrine of fashion, the dandy submitted to it, with the devotion of a new-made saint, and the imperturbable firmness of a martyr.

And, to test to the uttermost his truth and constancy, getting out of his trammels, was sometimes a more awful trial than getting into them.

Most earthly things, like the earth herself on her axis, whirl in a circle. Though cramping inexpressibles, therefore, are with our antipodes now, they will no doubt come back again. It is, therefore, that I have thought it right to enter my protest against them. They are a sad contrivance in physical education.

Tight cravats, by preventing a full flow of blood to the brain, through the arteries, and retarding its return, by the veins, do mischief. They operate prejudiciously in several ways. That they compress the muscles of the neck, and diminish their size, cannot be doubted. Hence, the necks of the moderns, who wear them, are smaller and less comely, than those of the ancients, to whom they were unknown. The manly and elegant form and dimensions, as well as the fine attitude and bearing, of the necks of ancient statues, are themes of universal admiration and praise. And they are, no doubt, chiefly, if not exclusively, attributable to the free and uncompressed condition of the necks of their originals. It is observed, by travellers, that the peasantry of Lombardy have finer necks than any other peasantry in Europe; and they wear nothing round them.

The diminution of the size of the neck, however, is neither the only, nor the greatest evil, which tight cravats produce. If, in any case, they restrict the

nourishment and vitalization of the brain, by withholding from it a competent supply of arterial, and too long retaining in it an accumulation of venous blood, they necessarily weaken the operations of the mind. This is as certain, as that the reduction of the natural flux of blood to a muscle lessens its vigor. As heretofore stated, the vitality of the brain is derived from the arterial blood; and, other things being equal, as is its vitality, so is its perfection, as the organ of the mind. Were it possible, without doing an injury to other parts, to augment the constant afflux of healthy arterial blood to the brain, the mental operations would be invigorated by it. I state this opinion confidently, because we often witness its verification. When a public speaker is flushed and heated in debate, his mind works more freely and powerfully than at any other time. Why? Because his brain is in better tune. What has thus suddenly improved its condition? An increased current of blood into it, produced by the excitement of its own increased action. That the blood does, on such occasions, flow more copiously into the brain, no one can doubt, who is at all acquainted with the cerebral sensations, which the orator himself experiences at the time, or who witnesses the unusual fulness and flush of his countenance, the dewiness, flashing, and protrusion of his eye, and the throbbing of his carotid and temporal arteries. It is well known, that, while intensely engaged in a memorable debate, last winter, in Washington, a distinguished senator became so giddy, by the inor-

dinate rushing of blood into his brain, that he was obliged to sit down; and the senate adjourned, to give him time to recover. And, more recently, a new member of the House of Representatives fell, while speaking, and suddenly expired from the same cause. A member of the Law Class of Transylvania, moreover, experienced, a few weeks ago, a convulsive affection, from a congestion of blood in the head, induced by excessive excitement of the brain, in the ardor of debate. Nor is this all. In several individuals, whose brain had been denuded, and brought into view, by accident or disease, the movement and swelling of the organ were rendered palpable, by the flux of blood into it, during intense feeling, and active thought. A remarkable case of this description, occurred in Montpelier, in 1822; and others, somewhat similar, are mentioned by Sir Astley Cooper, in his Lectures on Surgery. Had I leisure, and were it requisite, I could cite numerous instances of a like description. Sudden and deep emotion, as well as the vigorous working of the intellectual powers, has produced phrenitis, palsy, and apoplexy, by a superabundant rushing of blood into the brain. Inordinate excitement, of whatever kind it may be, draws an unusual amount of blood into that organ; and such an amount is essential to the maintenance of the excitement thus brought on.

Believing that a cravat had a bad effect on the operations of his mind, Lord Byron never wore one. Report indeed says, that his reason for this was, his desire to show his neck uncovered, on account of

its uncommon beauty. This, however, is probably, but a petty slander. His motives were best known to himself. Nor can any one doubt, that immoderate compression of the neck does mischief. Headache, impaired vision, and hemorrhagy from the nose, are among its effects. So, we are told, is apoplexy.

An article of dress remains to be noticed, which is immeasurably worse, in its effects, than all those whose influence I have considered. Motives of prudence, if not of gallantry, might impose silence on me respecting it, did not a regard for truth and duty, and a wish to be useful, invoke me to speak out. The article makes a part of the *apparel*, I may not say the *ornament* of woman, whose delicacy I would, in no case, willingly offend, and whose displeasure I would never intentionally incur, except in an effort to do her good. It is probably already conjectured, that my allusion is to corsets. If so, the conjecture is correct. I do allude to corsets, and pronounce them, most seriously, an alarming evil. The crippling machinery, with which the females of China compress and disfigure their feet and ancles, making the former too small, and the latter too thick and clumsy, are innocent to them. Corsets compress and disfigure a portion of the system infinitely more important, than the mere termination of the lower extremities. While the Pagan ladies, confine their attack to the out-posts of life, the fair Christians assault the citadel. By curtailing the dimensions of two of the great cavities of the

body, corsets obstruct the growth, and impair the functions of the organs they contain. And it has been already stated, that these are among the governing organs of the body, whose injury or unsound condition proves prejudical to every other portion of it. I allude to the stomach, liver, and all the other chyle-making and chyle-carrying viscera, and to the heart, lungs, and large blood-vessels. These are all compressed and deranged in their functions, and most of them reduced in their size, removed from their places, and altered in their shape, by tight corsetting. It is in vain to deny the truth of this, as an excuse for disregarding the warning it imparts. The fact can be, and has repeatedly been demonstrated, in anatomical researches. I shall exhibit to you, presently, satisfactory proof of it.

To secure to adult females what are called *fine figures* — which mean waists, shoulders, and hips, quite out of symmetry with each other, and with the rest of the body — the corset-screws are applied to them, while they are young girls, their whole systems being tender, and their bones comparatively soft and flexible. The consequence is, that, when the lacing is tight — and it is always *too* tight, for there should be none at all of it — their ribs, especially the false ones, are pressed inwardly, to such an extent, that their front ends nearly touch each other, if they do not actually overlap; whereas, in their natural position, they are wide apart. Even the upper ribs are, at times, so pressed on, as to be flattened, or rather straightened, in their lateral arches,

and protruded forward, carrying along with them the breast-bone, to which they are attached. Thus is the whole trunk of the body *altered*, in its figure and dimensions, but not *improved*. Far from it. All is for the worse, as well in appearance, as effect. The abdominal cavity, being, in this way, preternaturally straightened in a horizontal direction, its viscera are pressed inordinately upward against the diaphragm. That membrane being thus forced upward also, compresses, in its turn, the lungs, heart, and large blood-vessels, and brings them more or less into collision with the thoracic duct, obstructing in some degree the movement of the chyle. In this forced and unnatural condition of things, all the functions of these viscera, so fundamentally necessary, not merely to the well-being of the system, but its very existence, are deranged by compression. Let us glance, in detail, at the mass of mischief thence arising.

The whole digestive apparatus being impaired in its action, dyspeptic affections follow; neither is a sufficient amount of wholesome chyle formed, nor of bile secreted, both of which are so indispensable to a sound state of the blood, and in other respects so important to the system; and the sympathetic influence of the unhealthy organs, on the other parts of the body, is rendered deleterious. Add to this, that the compressed organs themselves, being weakened, are unusually liable to further disease, from the action of any morbific cause.

The lungs being enfeebled and deranged, not only

is respiration defective, and the blood imperfectly matured and vitalized, but they themselves, in common with the stomach, liver, and other associated parts, are in a state of increased liability to additional suffering. Hence homopthisis, pulmonary consumption, and dropsy of the chest often ensue. I knew a young female of some distinction, as respected both her mind and family, in the city of New York, who, some years ago, became known, from tight corsetting, by the name of the 'Lady with the small waist!' Notwithstanding her good sense in other things, this excited her ambition to render herself still more worthy of the title, and to prevent, if possible, in others, all competition for it. She therefore increased the tightness of her corsets, until she became hump-shouldered, and died in consumption. Nor did any one doubt that her corsets were the cause. She was married, and left an infant son, who, from the slenderness of his frame, and the delicacy of his constitution, is threatened with his mother's complaint. He inherits her *corset-broken* constitution.

Of the heart, the same is true. From its compressed and debilitated condition, it becomes affected with palpitation, dropsy, inflammation, or some other malady — perhaps aneurism — and is incompetent to the vigorous circulation of the blood. Hence every portion of the system suffers — the brain and nerves not excepted, they depending, like other organs, on the arterial blood, for their health and power of action. Even the nerves of the organs

subjected to pressure are mechanically injured. Since the introduction of corsets, as an article of dress, diseases of the heart, among females, are much more frequent than formerly; and they have been traced to that cause, in innumerable instances. Cases of the kind could be easily cited. Respecting schirrous and cancerous affections of the breasts, in women advanced in life, the same is true. Those complaints are far more prevalent now, than they were before the present ruinous style of lacing.

From the foregoing view of their destructive effects on the female system, added to another, which motives of delicacy forbids me to mention,* it is

* My allusion will be readily understood to be to that diminution of the abdominal cavity, which prevents the full expansion of the gravid uterus. This necessarily diminishes the size and vigor of the fœtus, in a corresponding degree, and implants in it the elements of future disease. For unnatural compression can scarcely injure it less before birth, than after it. Premature parturition, is often the effect of this forced and restricted condition of the organs.

Let me not be told, that females lay aside their corsets, or loosen them greatly, during gestation. That matters but little. The damage is already done, and cannot be repaired. The diminution, I mean, of the abdominal cavity is already produced, and rendered *permanent*, by the pressure of the ribs inwardly, and their having become fully ossified, and fixed in that position. So confident were the Spartans of the importance attached to the full dimension of the abdominal cavity of females, that they prescribed, by law, the form of dress they were to wear, during pregnancy; and its leading feature was its *looseness*, that it might produce no injurious pressure. I need scarcely add, that the Spartans surpassed the other inhabitants of Greece, in their size, strength, and hardihood, as well as in their fine personal proportions.

neither unjust nor extravagant, to say of corsets, that they threaten a degeneracy of the human race. And, were they worn by all females, as they are by many, they would as certainly produce it, as an impaired fruit-tree yields faded fruit—and on the same ground. *The descendants of tight-corsetting mothers, will never become the luminaries and leaders of the world.* The mothers of Alexander and Hannibal, Cæsar and Napoleon, never distorted their persons by such a practice. Nor is the whole mischief of those articles yet summed up.

The straightness of the spinal column depends on the strength of the muscles that support it. But those muscles are enfeebled by the pressure of corsets. Hence the spine bends and becomes distorted. Instances of crooked spine have been fearfully multiplied in the fashionable female circles of Europe and America, since the beginning of the present century; while in Greece, Turkey, Persia, Arabia, and other parts of Asia, as well as in Africa, where no tight forms of dress are thought of, it is almost unknown. Nor does it appear among our own countrywomen, whose persons are suffered to retain

An agriculturist has a stock of beautiful and valuable horses. What effect would he produce on their progeny, by so bandaging the females, when young, as to take from their abdominal cavities a third of their size?—I answer, *deep deterioration.* Nor is that produced on the human family, by a similar practice, less striking. Were the higher classes of the inhabitants of Europe larger and stronger, a few centuries ago, than they are now? They were not the descendants of corsetted mothers.

the shape, which God intended for them. This breach of his law, therefore, inflicts the penalty incurred by the fault.

It appears, from actual computation, that, of the females, who have been accustomed, from early life, to tight corsetting, nearly *one fourth* have some unnatural and disfiguring flexure of the spine! By not a few observers and calculators, the proportion is maintained to be much greater. A Scottish gentleman, of distinction, assures us, that he has examined about *two hundred* young females, in fashionable boarding-schools, and that scarcely one of them was free from some sort of corset-injury. Those, whose spines were not distorted, had unsightly effects produced on their shoulder-blades, collar-bones, or some other part of the chest, which stuffing and wadding would be requisite to conceal. Some were hunch-backed, and, in not a few, one shoulder was higher than the other; effects, which, in our own country, are much more frequent, than is generally suspected. In no individual, was true personal symmetry amended by the practice; while, in almost every one it was impaired, and, in many, destroyed. In fact, such pressure cannot fail to injure the symmetry of the trunk, that being its direct tendency. The custom, therefore, is as foreign from correct taste, as from sound philosophy — and I was near saying, from humanity and moral rectitude.

Woman was not intended to be turned, by artificial means, into an insect, with broad square shoulders, and a spindle waist. The latter portion of

her body was designed to be something more than skin and bone. For her benefit as well as for the elegance of her form, nature has surrounded it with substantial muscles, and cellular tissue, which ought not to be sported with and wasted, in compliance with fashion and a spurious taste. And she may rest assured, that she is not only more healthy, vigorous, and comfortable, but also an object of greater attraction, with a flexible and fleshy, than with a shrivelled, stiffened, and skinny waist. Nor are the female shoulders broad and square, by *nature*, which alone gives patterns of real beauty. An attempt to render them so, by art, therefore, is equally repugnant to correct taste, and sound judgment. Yet, such is the effect of tight corsetting. Preventing the blood from circulating freely through the muscles of the lower part of the trunk, or rather of its middle, it throws it into those of its upper portion, preternaturally nourishing and enlarging them, and raising and squaring the shoulders, and rendering them pointed. The mere mechanical action of corsets contributes to the latter effect, by forcing upward the muscles of the chest, together with the upper ribs, shoulder-blades, and collar-bones. And time renders the deformity permanent. No woman, who has worn tight corsets, from her girlhood, has, or ever will have, those important parts of her frame in their proper places: they are all more or less dislocated; and the effect produced, is a direct deviation from beauty of form. Burke, in speaking of the fascinating elegance of the female bust, in his treatise on

the 'Sublime and Beautiful,' gives a description of it extremely different from the bust of a well-corseted fashionable, of the present day. His just and glowing picture is made up entirely of easy slopes and graceful curve lines. We have too much now of points, angles, and masculine squarenesses. Yet the female figure, when not put out of shape, is as beautiful now as it was then. Independently of the injury done to health, the personal disfiguration produced by tight corsets, hogshead skirts, and shoulder balloons, is a lasting reproach on the taste of the times.

It is to man, that nature has given broad, square, and brawny shoulders, and a waist comparatively narrow. And, so far as tight corsets and other articles of dress may avail, woman is usurping his figure. I need scarcely add, that, in grace and beauty of person, which confer on her much of her attractiveness and power, and should therefore be among the cherished objects of her ambition, she is losing greatly by the change. Man submits to woman, and courts her approbation and smiles; his best affections cling to her, and his arm and life protect her, on account of her womanly qualities. Any thing masculine in her, excites his *dissatisfaction*, not to give the feeling a stronger name. And broad, square shoulders *are* masculine, suited only to a man, and a virago. There is in them nothing of that delicacy, appeal for protection, and all-subduing loveliness, which we instinctively attach to the word *feminine*. Instead of doing aught, therefore,

to create in herself such a form of person, woman should shun it, as she would deformity, of any other kind.

I have said that tight corsetting, obstructing the free passage of the blood downward, throws it into the superior portion of the trunk. But it does more; it forces it, in preternatural quantities, but impaired in quality, into the head, and produces there, many forms of disease that are painful and annoying, and some that are dangerous. Among these are headache, giddiness, bleeding from the nose, imperfect vision and other affections of the eyes, noise in the ears, convulsions, and apoplexy. Fainting is another effect of this preternatural accumulation of blood in the brain, the reason of which is plain. While the corsets are on and laced, a sufficient quantity of blood is sent to the brain, to enable that organ to sustain, by its influence, the heart and muscles of voluntary motion, and hold them to their functions. As soon, however, as the corsets are unlaced, the blood forsakes the brain, in part, and flows naturally through its downward channels. The consequence is obvious. The brain being thus enfeebled, for want of the blood necessary for its vitality, and the functions it performs, and its invigorating influence being no longer extended to the system generally, the heart and muscles fail in their action, and the individual faints. This occurrence takes place on the same ground with fainting from venesection, or any other form of hemorrhagy. Too much blood is withdrawn from the brain. That viscus is de-

prived, of course, of much of its own vitality and power to act. Nor is this all. It is deprived, also, of much of the material, from which it prepares its sustaining influence, for the body generally. For whatever the matter of cerebral influence may be, it is prepared from the blood, as certainly as bile and saliva are.

Almost all females who lace tightly, complain of weakness, when their corsets are removed; and many of them are obliged to assume a horizontal posture, to escape asphyxia. Worse still. Some are compelled to wear their corsets, as a part of their night-dress! Even a horizontal posture, does not secure them from a tendency to faint. This is so deplorable a condition, that the practice which induces it, involves criminality. Many acts are called felonious, and made punishable by law, which, contrasted with it, are innocent. By permitting it, parents, especially mothers, assume a responsibility, which might well make them tremble. They are accessory to its consequences, however fatal. Indeed, possessing, as they do, full powers of prevention, they should be considered principals.

Perhaps all females, who wear corsets, though they may not faint on removing them, nor even feel a tendency to that effect, complain of uneasiness and debility in the back, or some other part of the trunk. The reason is plain. The muscles of the part being weakened by pressure, require the continuance of it, as the sot does the stimulus of his dram, to give them tone and strength sufficient to sustain the

weight of the body, in an erect position. Hence the individual bends the trunk ungracefully; and, unless vigor of the muscles be restored, she is threatened with a spinal curvature. *

Even beauty of countenance is impaired, and, in time, destroyed, by tight corsets. Do you ask me in what way? I answer, that those instruments of mischief wither in the complexion, the freshness of health, and substitute for it the sallowness of disease — on the spots, where the rose and the ruby had shed their lustre, they pour bile, and sprinkle ashes. They do still more, and worse. They dapple the cheek with unsightly blotches, convert its fine cuticle into a motley scurf, blear the eyes, discolor the teeth, and dissolve them by caries, and tip

* Many women of intelligence and experience are inclined to believe, that some form of bracing around the female waist is, if not essential, highly useful, in giving support to the body, and maintaining its erect posture. This is a mistake. Such artificial support is required, only as a consequence of disease, or from the debilitated condition of the muscles, by previous tight lacing. True, — the muscles of the female body are feebler than those of the male. But, corresponding to this, the weight of the body is less. In consequence of this *fitness*, the trunk of woman requires, by nature, no more artificial aid to keep it straight, than the trunk of man. Hence the elegance of the female form, in Georgia, Circasia, and other parts of Asia, where tightness of dress is unfashionable and unknown. The necessity of corsets, therefore, to sustain the person, arises from the misfortune of having ever worn them. And, unless the practice be abandoned, that misfortune, like other constitutional defects, will pass from mother to daughter, in an increasing ratio, until it shall result in a fearful degeneracy of our race.

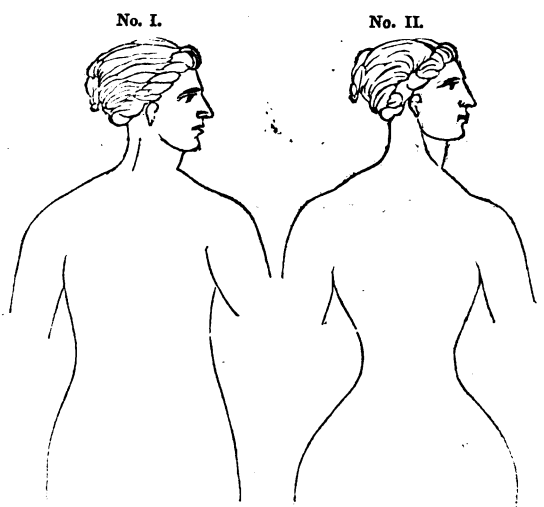
the nose with cranberry red. That effects of this description often result from gastric and hepatic derangement, every practitioner of medicine knows. And it has been already shown, that such derangement is produced by corsets.

But those articles make still more fatal havoc of female beauty, by imprinting on the countenance — not premature wrinkles — that could be borne — but marks of the decay of *mental beauty* — I mean deep and indelible lines of peevishness, fretfulness, and ill-temper, the bitter result of impaired health. No form of indisposition so incurably ruins the temper of woman, as that which prematurely destroys her beauty, especially if she feels conscious that her own indiscretions have been instrumental in its production. To the truth of this, experience testifies. Independently, moreover, of their cause, no other complaints pour into the temper such acerbity and bitterness, as those of the digestive organs. This is also the result of experience. Man, but more especially woman, bears fever, pulmonary consumption, fractures, wounds, and other forms of injury and disease, with a patience and mildness, which, if they do not improve her personal beauty, increase her loveliness, and add tenfold to the sympathy and sorrow felt for her suffering. But dyspeptic affections, especially, I repeat, if a busy and tormenting consciousness whispers hourly into her ear, that she has herself contributed to their production, by a practice she might have avoided, and of the ruinous effects of which she was repeatedly warned — complaints of this description are submitted to, by her, in a differ-

ent spirit. She becomes irritable, capricious, gloomy, and full of complaints and fearful imaginings. Unhappy in herself, she seems, in contradiction with her nature, to forget or disregard the happiness of others, and does not even shrink from proving the bane of it. I intend not these remarks, as a censure on woman. Far from it. I mean them as a denunciation — and would that it were exterminating — of the abominable practice, that destroys her peace, and mars her loveliness.

Under this head, I shall only add, that, in the higher walks of life, our fair countrywomen, especially in the Southern States, are more delicate and feeble in constitution, and therefore less robust in health, than they are in Europe — more so, certainly, than they are in Great Britain, France, or Germany. The slenderness of their frames, and the semi-pallidness of their complexions testify to this. It is noticed by all strangers of observation, and cannot be otherwise regarded, than as an evil, ominous of the degeneracy of our descendants. Women constitutionally feeble cannot be the mothers of a vigorous offspring. There is reason to fear, that this fragile delicateness will, by means of a spurious taste, pass into an element of female beauty, in the United States; and that will render it a national evil to endure for ages. That this will be the case, is not to be doubted, unless the proper remedy be applied. Nor is that remedy unknown, of difficult application, or dubious effect. It consists in a well-directed physical education. That that will remove the evil, appears from the fact, that the females of our

country, in the middle and lower ranks of life, who take sufficient exercise in the open air, and do not injure themselves by their modes of dress, are as healthy and vigorous as any in the world. No man of taste wishes to see our highly-cultivated women, with milk-maid complexions, or harvest-field persons. But had they a little more of both than they now possess, they would be not only more comfortable in themselves, but more lovely in the eyes of others. In the European countries referred to, cultivated females neither house themselves so much, nor marry at so early an age, as they do in the United States. Hence their health is better, and their frames stronger.




Before I close my discourse, allow me to exhibit to you two figures. No. I. is a correct outline of

the Venus de Medici, the *beau ideal* of female symmetry, and No. II. that of a well-corsetted modern beauty. And it might be sufficient comment, simply to say, 'Look on this picture, and on this.' One has an artificial insect waist; the other the natural waist of woman. One has sloping and graceful shoulders; while the shoulders of the other are comparatively elevated, square, and angular. The proportion of the corsetted female below the waist is also a departure from the symmetry of nature.

Suppose two statues, as large as life, accurately executed, one of them resembling the ancient, and the other the modern beauty; which would be preferred, even by the taste of the present day? The question requires no reply. A suitable answer rises spontaneously in the mind of every one. The modern statue would be pronounced 'deformity'—perhaps a 'fright;' the other a miracle of beauty. And the decision would be just.

I know of but *one other* custom, so perfectly calculated to produce a degeneracy of the human race, as that of contracting the dimensions of the waist of woman, weakening her constitution, and distorting her spine; and even *that* is, in some respects, less injurious. I allude to the practice of the Caribs, the most brutal and ferocious tribe of American Indians, in *flattening their heads*. Nor does the custom of the savage produce deformity more real, than that of the civilized and fashionable female. Yet the effects of the one are looked on with professed admiration; while those of the other are regarded

with horror. Compared to either of them, the practice of the Chinese ladies, as already stated, in disfiguring their feet and ancles, is taste and innocence.

Finally.—One of the leading benefits to be bestowed on our race, by Physical Education judiciously practised, and carried to the requisite extent, is the production and preservation of a well-adjusted balance, not only between the different portions of the brain, but of the whole body. Few persons, if any at all, bring into life with them, a system perfectly balanced, in all its parts. Some organs predominate in size and strength, while others are comparatively small and feeble. This is a tendency to disease, and can be removed or amended, only by competent training. Let it never be forgotten, that the proper exercise of a part, and *that alone*, increases both its bulk and power, and, at the same time, diminishes any excess of sensitiveness it may possess. And this is precisely what small and feeble parts require, to place them on a par with others, and secure their health. To illustrate my meaning, and show it to be true :—

Is the chest of a boy narrow, and are his lungs weak and irritable ? Let those parts be habitually exercised, according to the directions already given, and such a change may be produced in him, as will give an equipoise to his body, and prevent disease. His chest and lungs may be enlarged, not a little, and as well secured from complaints, as his other organs. From the free and constant exercise which their calling gives to their arms, shoulders, and

thoracic walls and viscera. London boatmen have large chests, and are strangers to consumption. The loud and habitual call, moreover, by which they announce their business and solicit employment, aids in the development and strengthening of their lungs. From these causes, though perpetually exposed to the damp and chilling air of the Thames, they rarely experience any form of pectoral disease.

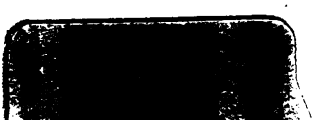
Of every small and feeble part of the system, the same is true. A judicious scheme of training will enlarge and strengthen it. But hereditary predisposition to disease is nothing else than the want of an equipoise between all the different portions of the body. Some organs being comparatively weak and sensitive, are prematurely prone to actual derangement. By well directed exercise, therefore, continued through successive generations, may every predisposition of the kind be eradicated.

Such is the best outline of my views of Physical Education, that my other engagements have allowed me to prepare. Sensible of its imperfections, but unable at present to remove or lessen them, I must throw it, for acceptance, on the indulgence of those to whom it has been presented.

## ERRATA.

face, p 4. fourth line from the bottom, for 'fitter' read *fuller*.
ge 13, bottom line, for 'section' read *sectione*.
ge 34, top line, for 'London' read *Landau*.
ge 37, 13th line from bottom, for 'intervello' read *intervallo*.
ge 49, 11th line from top, for 'torn books' read *horn-books*.
ge 52, 13th line from top, for 'men' read *man*.
ge 58, 9th line from top, for 'agriculturalist' read *agriculturist*.
ge 84, 16th line from top, for 'irritable' read *irritable*.
ge 98, 14th line from top, for 'began' read *begun*.
ge 103, 11th line from bottom, for 'arteriolization' read *acterialization*.
ge " 3d line from bottom, for 'adjutants' read *adjuvants*.
ge 106, 9th line from bottom, for 'with the stomach' read *of the stomach*.
ge 109, 13th line from top, for 'sinks' read *sink*.
e 119, 5th line from top, for 'homopthisis' read *hæmopthisis*.
e 120, 13th line from top, for 'forbids' read *forbid*.
e 127, 2d line from top, after *unless* read *the*.
ge 129, 3d line from top, for 'in contradiction with' read *in contradiction of*.
ge 133, top line, after *viscera* should stand a *comma*, not a *period*.
ge " 10th line from bottom, for 'prematurely' read *preternaturally*.

This book should be returned to the Library on or before the last date stamped below.

A fine of five cents a day is incurred by retaining it beyond the specified time.

Please return promptly.